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29 September 2010

Paul, Sam,

Re Offshore Electricity Transmission: Further Consultation on the Enduring Regime

Many thanks for the opportunity to respond to this consultation. Please see our full response below.

General comments

We are very pleased that the consultation has been scoped to allow discussion of the generator build option and the facilitation of co-ordinated offshore transmission development. We believe that a more integrated approach to the development of offshore and onshore transmission is essential if the most efficient network is to be delivered. Given the large volume of investment that will be required to deliver Round 3, it is important to establish the right framework to deliver this.

However, as you have suggested, this may take some time, especially if primary legislation is required to achieve it, and we would like to emphasise how important it is that existing projects are not held up in any way by these deliberations. It is therefore essential that all is done in the meantime to enable the generator build option.

Enabling the generator build option

In order to effectively build on the existing transitional arrangements which allow generator build, we believe the following must be done in order for this to become an ongoing option:

- Clarification of the tender regulations to allow for the timing of the asset transfer and the involvement of Ofgem consistent with generator build
- Clarification of the implementation of the Third Package in respect of offshore transmission owners and, specifically, how OFTOs might be certified as TSOs
- Either clarification of the process for appointment of an OFTO of last resort that does not introduce any delay in constructing, commissioning, accrediting or operating the transmission link or the wind farm, or confirmation that the generator can construct, commission and operate the transmission assets and the wind farm under its generation licence until such time as an OFTO has been appointed and certified.

We believe it should be possible to complete all of these steps before expiry of the Secretary of State's powers on 19 December 2010.

Integrated solution for Round 3

We believe there are clear benefits to the integrated approach to grid development for Round 3 that SSE has long promoted and have recently been highlighted in detail by National Grid.

Looking at this from the perspective of SSEs generation business, the objectives are clear – a transmission link should be available to support the construction, commissioning and operation of the

offshore wind farm in a timescale consistent with that of the development of the wind farm. The charges for this must be clear and equitable.

Because of the uncertainties that have arisen with the originally proposed enduring OFTO regime, generators have felt it necessary to protect their position and manage their risks by pushing for a generator build option. However, this does nothing to address the issues that arise from the piecemeal, point to point nature of the developments.

Why does this matter to the generator? If there is a more economic solution, the generator has an interest in this since it should lead to lower charges. More importantly, if there is a solution that has a lower environmental and social impact, it will make the consenting process simpler and reduce the risk of unfavourable planning decisions or conditions.

We have assessed the potential impact arising from delay in delivery of the grid connection and there is no doubt that this introduces a significant challenge to the fundamental economics of an offshore wind farm. A delay of one year in the start of revenue streams which results from any of the various steps in the process reduces lifetime income by approximately £200m/GW which is equivalent to a reduction in the IRR of 1%. Across all developments, this equates to a risk penalty that is an order of magnitude greater than the potential savings DECC and Ofgem believe will be created by an OFTO regime.

SSE is almost uniquely placed to be able to evaluate this issue based on its first hand experience of not just developing off shore wind farms, but of developing offshore transmission links to the Scottish islands. It has been this process that has shown us how essential it is that an integrated approach is taken to ensure there is a robust needs case and defensible route finding process covering every part of the development from the substation on the wind farm through to the interconnection point on the mainland.

National Grid's work has shown the potential for a network to deliver Round 3 and other large scale generation needs on the mainland which could significantly reduce the number of landing points, the number of offshore structures and the length of cables and wires. We support this important work undertaken by National Grid and expect the enduring regime to be designed to achieve these benefits.

It should still be possible in such a scenario for the network to be developed in such a way that, if still necessary, the operational assets could be put up for tender individually or on a zonal basis. The outcome with regard to the tender exercise would be no different to that of generator build but would be on the basis of a more rational, economic and environmentally optimal solution.

Standards

We have also identified a couple of technical issues with the transitional regime that need to be addressed to enable an enduring regime with the generator build option. Clarity is required on the standards to be followed in the transmission design. It is possible to ensure the design of transmission assets to transmission (and not generation) standards through a code change (CUSC) or through obligations on the generator during the tender process. This might require the generator to seek review of its proposed transmission design from an independent expert or the system operator. It is important not to simply require compliance as this might result in inefficient designs.

Asset Transfer

The timing of asset transfer in a multi-stage build process, e.g. Gabbard should be once the entire transmission asset is built and commissioned – up until that point, for regulatory purposes, it should be considered part of the power station and operated as such under the generation licence. In practice this is crucial as offshore wind turbines require back-feed power as soon as they are installed to allow them to yaw into the wind (for safety reasons) and for auxiliary power loads such as de-humidifiers. Financially it is also important to permit commissioning to occur and first power to flow as early as possible without waiting for all turbines to be complete.

Consultation Questions

Chapter 3: OFTO Build Options

Q3.1. Do you agree with the proposed scope of activities defined as preconstruction works?

The preconstruction works must include all those associated with the fulfilment of all statutory and regulatory requirements associated with the development.

These must include the following:

- securing land rights, including leases, wayleaves, easements, and compulsory purchase orders.
- securing all seabed and foreshore rights.
- obtaining all necessary planning permissions and consents, including where necessary public inquiries – that are needed prior to construction (recognising that some consents might only be achieved after construction commenced), in a co-ordinated and strategic way
- carrying out environmental impact assessments, including all necessary survey work, and stakeholder consultation
- carrying out all engineering design and survey work required in association with the OFTO development recognising that this may extend to full FEED.
- engagement with National Grid in relation to the interface between the OFTO scope of works and their scope.
- preparation and engagement with the OFTO tendering process.
- early supply chain work to ensure equipment is available in a timely fashion for the offshore transmission.

Clearly the scope would be likely to be wider under the “generator build” option.

There must also be recognition of the different requirements laid down by all of the devolved administrations.

Q3.2. What are the appropriate mechanisms for ensuring that contingencies are managed efficiently?

Contingency is very important and a ‘normal’ element of any construction project. The scope and scale of contingencies will vary on a project-by-project basis; hence not suited to a mechanistic regulatory approach and should be treated as part of the overall construction forecast.

In managing the level and nature of contingencies for the transmission link it will be essential to ensure that the overall costs, including those associated with delay and uncertainty are calculated and assessed for the project overall, including the offshore wind farm and onshore transmission assets as well as the offshore transmission assets. It would not be appropriate for an OFTO or Ofgem to focus entirely on the offshore assets in isolation.

There is no single mechanism which is appropriate for all types of risk. For instance, the risk of not gaining consent is normally dealt with in a different way to ground risk. This is also intrinsically linked with the commercial issues around risk transfer to the OFTO, and also the capabilities of individual OFTOs – some may be in a position to take technical risks like ground risk, and others may not wish to. Therefore it is likely that a mix of mechanisms will be needed from straight fixed contingencies to links to exchange rates and other indices.

Q3.3. What are your views on allowing generators a role in informing the evaluation criteria for technical issues or enabling generators to comment on the technical sections of the bid submissions?

It is essential that generators and the NETSO are involved in this process as is the case onshore. To not involve all three parties would be to risk suboptimal solutions and damage the consenting process. It is also critical if grid code compliance issues are to be adequately addressed.

Q3.4. What should be Ofgem's role in the transfer of property rights and consents to the OFTO?

This is a particular issue for multi-stage transmission developments, e.g. with several cables between the windfarm and shore. Our view is the transmission asset should be transferred on completion of the entirety of the asset – not before and, in effect, midway through construction. This requires clear rules around the commissioning and transfer process.

Whether single or multi stage, the assessment of whether costs have been incurred efficiently must be seen in the context of the whole project. It may be right to sub optimise the economics of one part of the project, whether that be on shore transmission, offshore transmission or the offshore wind farm, in order to optimise the whole. Similarly, it may be essential to adopt a suboptimal economic solution in order to secure permissions and/or consents. Either there must be a clear understanding in advance to allow the developer to be clear what will or will not be allowed, or there must be an efficient ongoing process that allows discussion and decision making with/by Ofgem to take place.

OFGEM would ideally be in a position to mediate any transfer of property rights and to assure that agreement between the OFTO and generator is reached in a timely manner without the generator being held to an unfair set of terms prior to agreement of the stage 2 connection offer however this should be on a case by case basis. However mediation may not be enough and the process for transfer should be written in a robust manner so that the process must be followed stringently. Even with generator build this will be the most contentious part of introducing an OFTO to a project.

Q3.5. Should we extend OFTO of last resort arrangements to include failed OFTO build tenders (noting a generator could construct their own assets should the tender process fail to identify an OFTO under those appointment options), and if so should the obligations be extended to all transmission licensees?

OFTO of last resort arrangements must be extended to ensure that under no circumstances is a generator left without an option to commission or operate a transmission link regardless of who has built it or is due to build it. Where a generator build option has been pursued, this should potentially include the option for the generator to commission and operate the link under the generation licence (i.e. retaining the onshore boundary point) while a suitable OFTO of last resort is found. As this section of the consultation document discusses, there may be issues in transferring obligations to an OFTO of last resort and since these may cause delay or uncertainty with the associated costs to the generator, they must be mitigated.

We agree with the notion of not including OFTO of last resort for the pre-build tender and hence requiring the generator to proceed with a generator build at that point. Ultimately, it is up to the generator to make this decision, but it does make a generator build OFTO of last resort even more important.

However this only defers the problem as, unless the generator is allowed to operate long term, there still needs to be an OFTO eventually

We note that it is incorrect to make the assumption that a failed tender process automatically equates to the project being “overly risky” and that the customer's money should not be invested. There are potentially a range of reasons why this might happen, for instance a shortage of OFTO bidders with an appropriate risk appetite to bid for OFTO build projects.

Q3.6. What are the appropriate mechanisms for ensuring that there is effective competition across the supply chain under OFTO build options?

There are inherent weaknesses in the OFTO competitive approach if this constrains competition in the supply chain. Ways of allowing OFTOs (and generators) to jointly tender for services and equipment should be considered. If exclusivity is distorting competition, this may represent an abuse of market power and should be dealt with under appropriate legislation and if Ofgem were to see evidence of this it should respond appropriately.

There seems to be a mis-match between paragraph 3.31 (which highlights issues around OFTO competition) and Q3.6 (which focuses on supplier competition). The overall objective must be to encourage a healthy, competitive supply chain market, including new entrants of sufficient financial

capacity. Whether framework agreements or exclusivity agreements are pursued will need to be a matter for the market and not one which OFTO regulations can control.

Q3.7. How feasible are fixed price bids under an early OFTO appointment tender process? Is a bid based on approaches to procurement and financing possible?

Fixed bids are not feasible under an early OFTO appointment tender, indeed it is hard to see how a meaningful bid can be made that does not include unacceptably high levels of contingency or seeks to transfer the majority of risks away from the OFTO.

Q3.8. To what extent can design innovation be realised under an early OFTO appointment approach, given the restraints imposed by the connection offer and technical codes and standards?

We disagree with the conclusion that the scope for design innovation is great and that this is a benefit and would note that design innovation of the entire generation and transmission asset in these circumstances is important from a consenting perspective.

Limitations on design innovation include the requirement to work within the pre-agreed BCA (e.g. the capacity limits, location and any phasing), the absence of a holistic, joined up design process between transmission, OFTO and generator and the inability to consider whole Zone requirements rather than just the single project,

Q3.9. What are your views on the proposal to align stages of the tender process to milestones within the planning process?

Trying to align the tender process with stages in the planning process will be inherently difficult since the planning process itself is notoriously unpredictable. The additional cost of trying to administer this process with OFTOs and Ofgem is likely to outweigh any potential benefits. The later in the planning process then tender process begins, the more likely it is that a meaningful outcome can be achieved.

It also needs to be recognised that the IPC process quoted does not apply in Scotland, so a different set of milestones would be needed in that jurisdiction.

Furthermore, whilst it is true that obtaining consent is a key milestone in any project, there are many other factors influencing the schedule of any development. This may result in investments, such as supply chain investments, being made before consent is formally given in order to maintain a particular schedule. It would be more appropriate for the OFTO tender process to be linked to generator project milestones rather than just consenting milestones.

When is it anticipated that the detailed surveys and FEED will be conducted on the transmission infrastructure, bearing in mind that final designs will not be possible until the turbine model is chosen, which will likely be some time after consent? Again, the tender process needs to be tied to generator milestones (such as selection of turbine model) rather than just a planning milestone.

There still remains a key risk around the performance of the OFTO and the ability of the project to reach Financial Close if the OFTO has not also reached Financial Close. This is a key limitation – there would need to be some performance requirement on the OFTO if construction commitments are to be made by generators.

Q3.10. Are changes to the standard framework required to deliver an effective late OFTO appointment approach?

We do not think so.

Q3.11. Which approach to engaging with the supply chain of the three suggested under a late OFTO appointment enables the greatest level of competition?

There are fundamental concerns about the level of competition due to the limited number of suppliers that none of these options overcomes. The one most likely to avoid further anti-competitive practices is the firm price ITT on heads of terms offering by equipment manufacturers.

We also note that there is a cost to suppliers in responding to tenders and multiple parties seeking tenders for the same project from a limited number of suppliers might cause suppliers not to respond or to cherry pick prospective OFTOs. This is already an issue with the GB regulatory regime making things costly and difficult for the supply market.

Q3.12. Do the form and nature of arrangements for asset transfer under a late OFTO appointment need to differ substantively from an early OFTO appointment?

We do not think so as long as they adequately cover transfer of consents, wayleaves, survey and engineering data and analysis reports, designs etc. However, we are still unclear about why pre-construction costs need to be transferred

CHAPTER 4: Generator Build Option

Q4.1. Should a generator build approach be included in the enduring regime?

Yes, it is essential to maintain this option in order to allow generation developers to reduce the risks associated with the OFTO approach. Since any delay or uncertainty is so expensive for a developer. We estimate that this currently equates to at least £200m/GW lifetime costs which equate to a 1% decrease in IRR or a reduction in revenues equivalent to a year's delay in commissioning once capital has been committed.

This is a sensible step to address the issue that Ofgem/DECC have created ... but does not resolve the more important issue of facilitating strategic offshore grid development.

Q4.2. Are changes needed to the connection application process to reflect the different scope of information available at each stage for NETSO offers under a generator build option?

At a high level, no. The process, as under the transitional regime, should simply be one of moving the connection boundary from onshore to offshore at the timing of transmission asset transfer.

As things stand, the framework is a bit clumsy and could be clearer. This is not a show stopper as the framework currently allows for non-standard arrangements. But it does require consideration of a couple of key points: 1. when does the transfer take place (and what are the rules pre-transfer); and 2. ensuring that the transmission assets being developed and built by the generator 'work' with the rest of the transmission system.

The transfer should take place when the assets are complete and commissioned and once an OFTO or OFTO of last resort has been appointed AND certified. The commissioning should be as transmission assets and, if necessary, conducted by the NETSO on behalf of the OFTO. Pre-transfer, even if power flows through the assets, they should be treated as power station assets under the generation licence. In practice this principle is crucial as offshore wind turbines require back-feed power as soon as they are installed to allow them to yaw into the wind (for safety reasons) and for auxiliary power loads such as de-humidifiers. Financially it is also important to permit commissioning to occur and first power to flow as early as possible without waiting for all turbines to be complete.

If the generator opts for generator build, then the NETSO should be required to ensure that the transmission assets are adoptable.

Paragraph 4.10 is of concern though as it seems to imply that under self build options there would be scope for NGT to dictate to two separate independent self builds to work together on a single solution. We would disagree with this approach and argue that it's the SO's responsibility to provide grid

connection offers to each applicant and not to force design of the generation or OFTO assets in a particular direction

Q4.3. Do you agree with our initial assessment of required amendments to the standard industry framework? Have you identified further areas that may require amendments?

We agree that the tender process is likely to be very similar to the current one under the transitional arrangements. We also agree that generators should have the same responsibilities to design and build assets that meet the minimum standards – so long as that is the optimum outcome, a derogation might be the 'right' answer. We do not think this is likely to result in the assets being less attractive to potential tenderers unless there is some attendant liability that they must adopt. Since performance failures impact far more immediately and severely on the generator, this incentive will already have driven the generator to ensure performance criteria are stringent.

Generators would need to have involvement with any changes to these codes, in particular the planning code to assure that the generator build conditions are not too onerous. The idea that the generator would not build fit for purpose assets is exaggerated here and no mention was made under the original OFTO build option of the OFTO not building sufficient reactive plant to meet the generators requirements and this is more or less the same concern the other way around. However amendments are required and provisions should be made for data sharing requirements etc in the STC, such as week 24 data, fault levels etc. Given that transfer of assets must occur before operational go live any deficiencies in design would be reflected in the price and would be put right prior to a Final Operational Notification being given which would delay the generators connection date so there is already a significant incentive to design the assets correctly.

Q4.4. Do you agree that there is now sufficient understanding of the offshore transmission market and arrangements for cost assessments to remove the need for an ex-ante cost guarantee?

We do not believe that there is sufficient understanding of the offshore transmission market and arrangements for cost assessments to remove the need for ex-ante cost guarantee. The supply market is still immature, future projects are of a scale, distance from shore and depth of water that represents significant further risk and challenge and comparable worldwide experience is not available to draw on.

Our understanding of the technology for Round 3 projects is if anything even lower than the earlier projects as there is a technological leap from HVAC to HVDC not to mention the various additional areas of design that may be significantly different to the earlier rounds therefore we would argue that if anything the cost guarantee should be increased rather than removed.

Q4.5. Do you think that action is required to ensure fair and timely asset transfer from the generator to the OFTO, given that the property transfer scheme only applies to transitional projects?

Yes we believe action must be taken if this is necessary to deal with the risks identified in this section.

Q4.6. Are OFTO of last resort arrangements required under the generator build approach and if so, should the obligations be extended to all transmission licensees?

Yes, OFTO of last resort arrangements are required under the generator build option since following 'Go Live' these 132kV links are defined as transmission, require a licensed transmission operator, which according to the EU Third Package can not be a generator. It will therefore no longer be possible, as it currently is under existing exemptions, for the generator to commission and operate the link, unless some new form of exemption/derogation can be used while an OFTO (of last resort) is found. Without such an exemption/derogation the generator faces an unquantifiable potential delay to revenue streams which will seriously damage the viability of the project (see also response to Q4.1).

To address this, a clear policy position is required from DECC/Ofgem in respect of the certification arrangements. This should include that, as now, offshore transmission is not transmission until an OFTO licence has been granted. This would allow the assets to continue as part of the generation asset until such time as an OFTO is appointed and certified.

OFTO of last resort is more important under generator build than the other options as there is no fallback. There remains the same risk of tender failure. A successful OFTO of last resort regime requires clear rules that have been stress tested with a timetable and cost management approach that is understood by all parties involved. It will not be quick or easy.

Q4.7. What are the appropriate mechanisms for ensuring that generators ring fence transmission costs from generation costs when competitively procuring under a generator build approach?

It is more important that a generator minimises the costs across the project as a whole than specifically for the transmission link – this will guarantee the lowest costs to consumers in the long run. The lack of equipment suppliers will be the main block on effective competition, not the inclusion of generators as potential customers or the fact that they may be procuring as part of a wider, larger contract – indeed if the generator is able to combine different aspects of the project, the increased scale of the project should allow the generator to negotiate better rates. Exclusivity was discussed previously and needs to be dealt with regardless of whether it is with an OFTO or a generator.

This touches on a wider question of how to ensure an overall strategic development of the contingent generation and transmission assets – particularly in respect of achieving successful consenting. DECC/Ofgem should be mindful of this and not create unnecessary barriers.

This is not a trivial issue given the experience on the transitional projects. It would definitely be worth having a clear mechanism in place from the outset to ensure a smooth transition post-construction. Further development is needed on the solution which optimises all issues around the transfer such as financial, risk, tax, consenting etc.

CHAPTER 5: Implementing the Generator Build Option

Q5.1. What is the most appropriate route to implement the required amendments to the standard industry framework to deliver the generator build option?

First question is what needs to be done. This is not clear from the consultation document. We believe a change to the tender regs/rules, a clear position on certification, and addressing the points above about transfer timing and design standards.

DECC/Ofgem should seek to confirm the scope of necessary changes as soon as possible. Focus should be on necessary changes that are absolute barriers to the approach, not 'nice to haves' that just make it better/clearer. The 'nice to haves' can be done later.

A major concern with the current OFTO arrangement is the degree to which the risk of poor performing transmission assets is shared between OFTO and generator. It is crucial that the generator can have adequate reliance on the availability of transmission link.

Q5.5. What is the best approach to implementing OFTO of last resort arrangements under a generator build model?

These are absolutely necessary. The licence condition is there – what is needed is some stress tested rules.

We would particularly welcome early views by 9 September on:

Q5.2. the feasibility of the timetable to deliver an enduring regime by 19 December 2010 (when the Secretary of State's powers expire);

See above.

Q5.3. what are the minimum necessary changes to implement a generator build approach. Do respondents consider that it is possible to develop and deliver these changes by 19 December 2010?; and

See above.

Q5.4. the best approach to ensuring timely, effective and fair transfer of assets to the OFTO.

See above.

CHAPTER 6: Facilitating Co-ordinated Offshore Development

This is the key issue, and the proposals in this consultation document are ineffective.

The consultation leaves the onus with generators to trigger and finance strategic build. Individually, generators cannot achieve this – the cost is too high and they have insufficient information and questionable incentive. A co-ordinated approach requires a co-ordinator with the vires to trigger investment and share the costs, e.g. National Grid's model.

We fully support further development of an integrated approach along the lines of National Grid's proposal. It is critical that this option is developed further as quickly as possible, given the first indications of the potential benefits are so significant. However, as this concept needs further development and projects are progressing in the meantime, it is critical that the generator-build option in particular is pursued in parallel.

Q6.1. Do our proposals create sufficient opportunities for co-ordinated development of offshore transmission infrastructure?

No, we believe the proposals put forward by National Grid illustrate the shortcomings of the current approach and show the benefits in reducing both onshore and offshore infrastructure and the number of landing points as well as the associated costs and consenting issues that can be achieved by an integrated approach. This approach should be adopted alongside an offshore 'connect and manage' approach to achieve the benefits of integration and at the same time give generation developers the confidence needed that a link will be provided. This will mitigate what is currently a very significant risk and additional cost of capital for offshore developers.

There is also the important point about timing – the timing of the tender; the timing of the financial commitment from the generator; the timing of the installation of transmission capacity ('strategic build'). Also the diagram on page 14 does not acknowledge the one year plus to undertake the tender process at each 'star'. It also shows no engineering or FEED activity – when so they anticipate this being conducted?

Q6.2. Are there circumstances where additional offshore infrastructure development would be in the wider interest of the NETS?

Yes, in order to optimise across the onshore and offshore transmission regimes as well as the offshore windfarm, it will be necessary for flexibility in design to reduce economic, environmental and social impact. It is therefore entirely feasible that in some instances additional offshore infrastructure may form part of such an optimised solution.

Q6.3. Do you consider there to be any issues in respect of interoperability and standardisation?

Yes, the issues are currently minor but are likely to become significant. We have three transmission regimes in GB: onshore, offshore and interconnector. These interact poorly, never mind having to interact with other EU jurisdictions. A common GB regime would go a long way to starting the process of wider EU integration.

There must be opportunities associated with standardisation which should be encouraged. For instance, if in the near-term any radial connections are designed to be compatible with future integrated solutions where possible. This should present an opportunity to "future-proof" some aspects of the designs.

Q6.4. We would welcome views on the materiality of issues surrounding interfacing with other regimes.

See above.

At the very least, some work should be undertaken to ensure that any radial connections are not totally incompatible with future interconnections, so that some options are available to incorporate them into future developments.

Yours sincerely

A handwritten signature in black ink, appearing to read 'K MacLean', written in a cursive style.

Dr Keith MacLean
Policy and Public Affairs Director