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Dear John

Response to Offshore Electricity Transmission: Consultation on potential measures to support efficient network coordination

by Siemens Energy

Introduction

This response to the Ofgem consultation Ref: 26/12 is on behalf of Siemens Energy. We have also contributed to the Renewable UK response and support the points made in it.

Siemens is the market leading design & build contractor for offshore grid connections. We provide a range of asset services to OFTOs. We are also the leading supplier of offshore wind turbines and a co-investor in three UK offshore wind projects. We therefore have a unique and detailed understanding of the assets affected by the OFTO regime and the technical and commercial processes involved in both creating and servicing them.

We thank Ofgem for the considerable work it has put in to the Offshore Transmission Coordination (OTC) subject. The year long OTC project (OTCP) has brought many stakeholders to a common level of understanding of the key issues which are reflected in the OTCP Conclusions report and the consultation document. Siemens took part in the Offshore Transmission Coordination (advisory) Group and supports the conclusions of the report.

In this letter we respond to some of the specific questions in the consultation but would also like to make the following general points and comment on the "straw man" process outlined in the consultation.

Requirements for a successful offshore coordination policy

1 Active support for coordination rather than neutrality

We note the report quantifies the significant benefits that would come from coordination in some parts of the network. There are many factors that push parties towards less efficient solutions, so to deliver these benefits we believe the regime needs to strongly encourage coordination, not just remain "neutral". This is reflected in our responses below.

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2 The need for some stranding risk to be accepted on behalf of customers

The benefits of coordination are spread between various parties but eventually seen by electricity customers. In order to be able to deliver coordinated solutions where these are beneficial over all, it is necessary for some risks to be accepted on behalf of customers, as individual parties will not see sufficient benefit to warrant the risk or will be unable to raise finance to fully secure assets at the right time.

The existing regime defaults to customers taking no stranding risk. We believe customers would benefit from a more balanced approach where stranding risk can be accepted when the potential broader benefits clearly outweigh the risks.

3 Focus on timeliness of delivery, make decisions on best available information

Offshore transmission assets are an enabler to larger investments, i.e. the offshore generation that they connect. Construction time for transmission assets is usually longer than for an offshore wind farm and the connection asset has to be commissioned in time for the first wind turbine. Thus the offshore transmission assets will normally be on the critical path and so will the regulatory decisions necessary for AI. All stages in the regime need to fit with the overall development timetable. This is likely to mean that regulatory decisions must be taken based on best available evidence, rather than delayed until all aspects are fully known.

4 Recognition of the need to support investment decisions

The regime needs to balance its desire to retain flexibility for as long as possible with the need to offer sufficiently clear signals to allow developers and others to make investment decisions. Where an early decision was made that pre-construction AI on a coordinated design was reasonable, the decision should only be reversed under exceptional circumstances at the point of construction.

5 Recognition that sometimes pursuing 2 options for a while is efficient

Given the vagaries of the consenting process and the many and developing range of technical solutions, it may be appropriate to pursue more than one option at some stages of a project, discarding one as other factors become clear. The regime needs to allow such abortive costs where they were clearly in the interests of the project at the time.

6 Encouragement towards standardisation

If every project is designed to differing technical requirements AI becomes more risky, as assets cannot easily be re-used or re-directed to other projects. Round 3 projects are working independently on different block sizes for the phases of their zones and consequently grid connections of different capacities. Recent experience in Germany has highlighted the need for standardisation on ratings. In order to respond to project delays assets initially intended for one site are being swapped with others. There is a short term opportunity to adopt a standard block size for the first wave of UK R3 projects.

This would reduce the risks of AI considerably as any partially completed asset could be redirected to a later project. Stranding risk would reduce from the whole asset value to a few seasons' interest payments.

The use of higher capacity links represents one of the greatest benefits of coordination. However the rating for future higher capacity links is not clear. In the medium term, the ODIS suggests the adoption of 2.0GW HVDC systems. NG has separately announced that the maximum single infeed loss will increase to 1.8GW in 2014. As yet there is no clarity on if or when this would rise further to 2.0GW. Meanwhile TenneT, the German North Sea TSO, has standardised on 0.9GW for the short term. An obvious next step for TenneT would be to double this to 1.8GW. HVDC suppliers are now considering at what ratings to optimise their next generation systems. A clear steer towards a standard capacity circuits for the UK market would encourage them to aim for similar ratings. This would enhance competition and reduce the risk of AI.

We suggest that an expert group be established to agree block sizes and ratings for coordinated offshore connections. This should include the stakeholders with an interest in the first wave of R3 projects, Crown Estate, National Grid, OFTOs and the HVDC converter and cable suppliers. Ofgem could play a valuable role in the process. The group need not attempt to develop detailed standards – this is being done by the groups listed in the OTCP Conclusions report, (Box1 p30.) but it should work to align the ratings of UK offshore wind farm connections. This short term action might prove to be the single most beneficial step towards offshore coordination.

Comments on the Straw Man proposal

These are Siemens comments on the straw man process outlined in section 3 and in more detail in Appendix 3.

Generally we would expect the case for AI for a coordinated design to be clear cut. If the alternatives of uncoordinated or coordinated solutions are very finely balanced it would be better to err on the side of whichever can be delivered at lower risk or sooner, rather than spend significant time or effort to assess both to an apparently higher level of accuracy. The input assumptions on out turn cost etc. will have a limited accuracy. If there is a case for coordination it should be strong whenever the assessment is made. Ofgem can help by recognising the need to go with a decision based on the best available information rather than delay. I.e. encourage the developer, NETSO and Ofgem to agree on an option and stick to it.

The proposal describes a 2 stage assessment (paras 3.41 - 3.51) where Ofgem would give its view on whether it is economic and efficient to undertake pre-construction and later construction works on a coordinated design.

Given the potential for two or more years to elapse between these two decision points we agree that it is sensible to adopt this 2 stage process. We also strongly agree that an aim of the process should be that it does not extend the timescale for delivery of offshore assets.

A 2 stage process creates the jeopardy that the second decision will reverse the findings of the first and a developer will be left having consented an option that Ofgem does not now agree should be built. This would result in

significant delay, even if costs are allowed, and might result in an inability to gain planning consent for the alternative that could thwart the project.

In order to minimise this risk the second stage decision should only be allowed to differ from the first stage in extreme circumstances where some fundamental change to the context makes the initial case wholly inappropriate.

We therefore suggest that Ofgem's initial evaluation is sufficiently deep to base a judgement of the scheme as a whole, not just the value of development works. Furthermore it should limit the terms under which an alternative decision could be made later.

We agree that the first assessment should take place at around the time of connection offer and acceptance.

The indicative stages in the development of transmission assets shown in figure 1 will in practice often overlap. Our response to the previous consultation on the enduring tender regime highlighted this issue. For reasons of finance-ability, construction contracts are likely to be on a design and build basis and may need to be entered into some time before consent. The timing of the second assessment needs to recognise this. We therefore suggest that Generators should be able to trigger an earlier assessment to allow AI for construction to suit their project timescale. The information available at this stage may be less detailed than would be the case later in the project. On many projects the case for AI will be quite clear, so an earlier assessment should be possible.

Responses to questions in the consultation

CHAPTER: Two

Question 1: What are your views on whether:

a) the connection process (including the relevant industry framework) supports the design of an efficient and coordinated network?

The existing situation does not support coordination.

The connection process is a good start, but will need enhancements along the lines suggested in the consultation. Commitment and charging rules remain the greatest barrier to coordination. The consensual way in which code modifications are made and the differential impact between onshore generation of all types and offshore renewable generation is not likely to resolve the issues sufficiently rapidly. CMP192 left out the offshore issues. We believe it will be necessary for Ofgem to take more of an active lead to resolve the anomalies and barriers to offshore coordination.

b) the NETSO needs further powers to develop an efficient network?

We believe that the NETSO is the best placed body to develop coordinated network design. We have no view on whether more powers are actually required, or whether the incentives on the NETSO are appropriate and sufficient.

c) there are any barriers to the NETSO taking on an enhanced role in network development?

If the NETSO takes a greater role, which we support, it should also have some additional oversight to reassure stakeholders that it is balancing all interests. This could possibly be a revised form of the Electricity Networks Strategy Group.

Question 2: Do you agree with the proposed objectives for a reformed network planning document? Would other changes be useful?

We strongly support the concept of a harmonised network planning document and the stated objectives.

CHAPTER: Three

Question 3: Do you agree with our initial proposal for a definition of AI and that the types of AI set out are those that need to be captured in an approach to AI?

In practice the “high level engineering..” in Para 3.9 may include optioneering that is necessary to decide between different designs. For many projects this can only realistically be done in conjunction with a chosen grid contractor. The separation into pre-construction and construction works may not be clear cut. There may be a need to secure long lead time items earlier than other parts of the project, or alternatively the best procurement strategy might be an alliancing approach where the design is developed collaboratively. The distinction between pre-construction and construction is not always valid.

Question 4: Do you agree with our initial proposed objectives and regulatory design principles for an approach to AI? Are there some which you see as more important than others?

Whilst competition can be useful, we do not see it as an end in itself. Offshore grid connections are complex multi disciplinary projects with iterative stages in design. Lowest outturn cost is more likely where a collaborative and longer term relationship is sought with key suppliers.

We feel the third bullet point is too cautious. Sometimes there will be clear benefits in making significant early investments.

Question 5: What are your views on use of the connection application process as the platform for identifying AI opportunities? Could there be a need for AI to be identified outside of the formal connection offer process?

The use of the application as the trigger to consider AI will encourage early / prompt entry into the connection process, which should assist coordination. As long as early commitment is kept low, otherwise late applications are likely.

Question 6: Do you envisage that changes to industry codes and licences are necessary to enable the connection offer process to identify AI?

No views on this question.

Question 7: Are there barriers to cooperation in connection offers being agreed where a development involves more than one generator? What actions do you consider are warranted to address these?

No views on this question.

Question 8: Are there other parties that should be able to identify opportunities for AI?

We can not envisage any at this stage, but suggest it is not ruled out. There might be some one off scheme involving an interconnector linking with a wind farm in which other parties might be involved.

Question 9: What changes may be needed to ensure that assets that provide wider network benefits are designed, constructed and operated to provide a longer asset lifetime?

This is a difficult issue, no simple answers are available. We suggest there needs to be an incentive to design for longevity beyond the OFTO license period to allow for wind farm re-planting.

Question 10: What are your views on whether a longer revenue stream for assets that have wider network benefits could create better value for consumers? Longer tenors may improve IRR, but may put off some investors. No views on this question.

Question 11: What are your views on the best way to deal with possible interaction between assets with differing lengths of tender revenue streams? No views on this question.

Question 12: Do you agree with these high-level user commitment and charging principles for AI?
It is not clear how trade offs between cost and timeliness might be assessed. E.g. an onshore cable may cost more than an overhead line but be possible to get consent for in a time that allows the underlying generation investment to proceed or grid security to be maintained.

Question 13: What areas of the transmission charging regime may need to change to facilitate AI in the offshore transmission network?
Above a certain level charges no longer act as an incentive, but become punitive. We would like to see commitment costs set at a much lower level – high enough to avoid spurious applications, but affordable to allow projects to come forward.

Question 14: Is there a need for greater, earlier clarity on how including AI within the scope of works might be treated under our assessment of costs?
Yes, the earlier the better.

Question 15:
What are your views on the potential form of these Ofgem assessment stages? Should it be optional for generators to go through the gateways where they would be undertaking the subsequent works?
The stages may overlap or be indistinct.

Question 16: Do you agree with the proposed high-level criteria for use by Ofgem if considering whether AI would be economic and efficient?
We agree with the criteria. They should be applied to the next minimum sensible investment.

Question 17: What are your views on the appropriate timing of the possible Ofgem assessment stages?

We agree that the first assessment should happen at around the time of offer and acceptance

The second stage should be triggered by the developer or OFTO who intends to build the asset at a time to allow a decision in time for them to make commitments to the supply chain. This is likely to be during the consenting process but may be before consent submission in some cases.

Question 18: What information should in your view be provided as part of any published guidance that supports AI approval?

It would be helpful if the economic and efficient test by Ofgem aligns with or is complimentary to the needs case and consideration of alternatives that is part of the planning consent process.

The decision is between AI for a coordinated design and no AI for a non coordinated design, as in this model the work is secured by generators anyway. This is an either-or decision, not a quantitative one. The criteria therefore only need to be sufficient to identify if there is a clear case for AI. If the case is marginal the decision can default to no AI. This should allow relatively limited detail and a short decision time.

Question 19: Should there be additional requirements to share information with Ofgem to help streamline Ofgem's assessment of AI for project? What information should be included?

It should be in the parties' interests to share with Ofgem the best available relevant information to support the case for AI. It is probably better not to specify a list of information that is or is not to be considered as each case may be different.

Question 20: What are your views of the different options for who should undertake pre-construction works for assets that are driven by wider network benefits?

On many projects we believe it will be difficult to assess which assets are for the generator and which are for wider benefit. The party who needs the works to progress is likely to be the first of the generators to connect to the asset. They are therefore most likely to be prepared to undertake these works. We therefore suggest option 3 where generators have first choice, but the host TO would step in if the generator declined.

Question 21: Could OFTOs potentially have a role in undertaking pre-construction works for assets significantly driven by wider network benefits? How might this work?

This would be the default for any early OFTO build project.

Question 22: Do your views of the attractiveness and feasibility of an early OFTO build option differ for assets that are driven by wider network benefits?

The early OFTO build model could be highly beneficial for parts of the network that are mostly driven by wider network benefits. A similar model may emerge for competition in onshore transmission ownership, the subject of another Ofgem initiative.

The issue of loss of control for the generator would not apply in this case. The remaining down-side of early OFTO has always been the lack of certainty on the asset to be built and the risk premium that would therefore be added in a competitively bid selection process. If this too could be reduced through an enhanced role for the NETSO in specifying the asset then early OFTO would work.

Question 23: Are there changes that can be made to improve the incentives on offshore generators in undertaking pre-construction and construction works for assets that are driven by wider network benefits?

See Q 24

Question 24: What would be the impact on the attractiveness of Generator build option for assets that have wider network benefits if additional delivery incentives are incorporated? Should the OFTO build option be the main focus for this type of asset?

We believe the incentives on generators to construct timely and adequate assets are sufficiently strong. The risk to generators of non performing networks is far greater than any incentive faced by TOs or OFTOs. If a generator's route to market is to build a wider asset they are likely to do so – as long as they are assured they will be reimbursed.

Question 25: What are your views on how any distinction between "offshore generator focused" and "wider network benefit" assets should be made?

We believe it will be very difficult to draw this distinction and that it is unhelpful to try to do so in a way that makes generators responsible for fully securing the works.

Question 26: What role could commercial contractual arrangements have in ensuring that pre-construction assets are passed to the relevant party and the first developer can recover their costs?

The agreement to reimburse AI costs should apply for the scheme and whoever incurs the costs or parts of them should be able to be reimbursed as part of the OFTO transaction. This may be assisted if Ofgem acts as a temporary asset holder as suggested in 3.69.

Question 27: What changes may be needed to support the process? What would be the impact of requiring an OFTO to hold assets for future generators?

We have no view on this question.

Question 28: Will commercial arrangements and industry codes and licences provide sufficient access rights for shared assets? If not what changes may be needed to support the process?

There should be an incentive on generators to secure works where possible – security would confer rights to access the works once completed. If no security is made then the assets should be available to whoever does secure them first – thereby relieving customers of any remaining stranding risk.

Question 29: Are there any other issues with shared assets that need to be considered?

None.

Yours Sincerely,

Matthew Knight
Siemens Energy