National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Mr Ian Marlee
Senior Partner
Smarter Grids and Governance Transmission
Ofgem
9 Millbank
London
SW1P 3GE

Mike Calviou
Director, Transmission Network Service

Direct tel: +44(0)1926 655873
Mobile: +44(0)7979 708422

www.nationalgrid.com

cc: ITPRmailbox@ofgem.gov.uk

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Dear Ian,

Open Letter: Update on Integrated Transmission Planning and Regulation project – request for further views and evidence

In order to achieve the best outcome for consumers, delivering the end to end transmission network in such as way that it is able to respond to future challenges and requirements will be vital. The open letter raises issues of detail, but also requires consideration of more fundamental regulatory design principles including the alignment of incentives, the ability / willingness of the market to respond to information, and regime clarity over responsibilities and accountability for network co-ordination. Inadequacy in any one of these areas can result in inefficient piecemeal network design that fails to exploit opportunities of scale, results in the inoperability of the transmission system, and the unnecessary stranding of financial and/ or physical transmission assets.

This response is provided on behalf of National Grid Electricity Transmission (NGET) as Transmission System Operator (TSO), and focuses on the following key points;

- Network co-ordination in a multi TO world is essential to delivering an efficient transmission network that represents the best outcome for consumers. It will not however be without its challenges. All parties will need to be clear on how co-ordination is to be achieved and who makes the final decision,
- The wider GB network needs to be efficient but also be operable. Piecemeal design of networks is likely to result in a transmission system beset by increasingly complex operational issues,
- There are significant benefits to extending the current National Electricity Transmission System Operator (NETSO) role to take on this wider coordination of the onshore and offshore network. We recognise that some stakeholders may have concerns over possible conflicts of interests. However we would propose to address these concerns by, for example, transparent decision making and information provision.
- Central co-ordination of design, combined with competitive tendering of delivery, results in separation between design and delivery and can lead to increasing interface complexity, challenges in engaging the supply chain and longer delivery timescales. It is yet to be seen whether this model can provide timely investment in transmission requirements, particularly within a meshed network. Ofgem should hold open the option of other delivery models e.g. franchised delivery of critical offshore assets that are required to provide wider network capacity.

Where the existing regime no longer quite remains fit for purpose, Ofgem should seek changes as necessary.

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The features of a co-ordinated transmission system

Co-ordination across networks and TO footprints will be essential in delivering the best deal for consumers. Doing so requires the ability to plan ahead, to anticipate strategic system needs such that transparent solutions are timely, consider whether the networks are operable and provide simple and clear cross border requirements. Similarly, any outcome needs to provide clarity as to what constitutes efficient investment in the context of a continually evolving overall plan as system users requirements change and become more certain. Flexibility to evolve designs as existing and future customer requirements become clearer will be key to minimising asset stranding and constraint costs. To illustrate the extent of how customer requirements and designs change, in the last 12 months, we have received over 100 modifications to signed contracts to move dates, change requirements or to reflect changes to design as a result of third parties subsequently seeking connection.

Achieving co-ordination

Clearly, a feature of an expanded central strategic design role for the onshore and offshore system however is the existence of separation between design and delivery for many transmission investments. This separation means that co-ordination will be essential to delivering a network that is in the best interests of the consumer.

There are a variety models which, to varying degrees of effectiveness, are able to support the delivery of a co-ordinated overall transmission network. These range from a single body in control of all network development (the establishment of energy scenarios to the production of detailed designs) to a more 'decentralised' approach whereby the design is very much developer led in response to cost reflective transmission signals, individual user needs or to a perceived market opportunity. All have their challenges, but all could, to varying degrees, potentially facilitate different delivery approaches. Whether the separation of design and delivery of meshed transmission assets, coupled with the introduction of competition on an asset by asset basis, works in practice is yet to be established.

In order to deliver an efficient outcome, Ofgem and the industry need to be clear on how this is to be achieved. Any co-ordination role should look across all future customer requirements, assess how these may evolve and consider the strategic network response which best meets these requirements as they evolve. This is the approach taken under the Network Development Policy (NDP) which we have proposed for our England and Wales onshore network as part of the RIIO. It would seem sensible to build upon this approach when considering how to co-ordinate across networks and multiple TOs – e.g. we would anticipate creating a NDP for the wider GB onshore and offshore network. This could then provide the need case for investment that feeds into any TO / Developer regulatory funding decisions.

Furthermore, the approach taken should be transparent and open to public scrutiny and regulatory oversight, thus providing comfort that the network solutions identified are in the best interests of the consumer. Similarly, if more than one party is to undertake network design and delivery, risks will need to be clearly allocated such that each party has clarity on its risk and reward balance. Different co-ordination models will impact on the risk profile of network development.

Should clarifications or changes be required to existing legislative / regulatory regimes, then Ofgem should consider these. For example, this could include classifying offshore HVDC transmission links, originally designed to increase system capacity, as transmission even if it were subsequently used to connect offshore generation. A HVDC link of this nature is performing a transmission function whereas the current offshore regime was designed to facilitate competition in direct (radial) connections to shore. The option then left open for allowing ownership to remain with the relevant onshore TO(s).

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Creating a responsible party

The question as to which party should be responsible for co-ordination is one of public interest, with an apparent choice between two options – extend the role of the NETSO or create a new body.

An extension of the NETSO role, with the appropriate safeguards, has clear benefits. These include the synergies with the existing role, our technical and operational knowledge, the ability to link evolving customer requirements to the developing need cases for network development and the potential for regulatory incentives to drive efficient strategic network design. We recognise that extending the NETSO role may raise concerns with stakeholders in relation to perceived potential conflicts of interest, but it is possible to mitigate these concerns through the introduction of further safeguards - for example, transparency surrounding decision making.

The alternative is to create a new body which is accountable for overall co-ordination. Whilst this would remove the potential for conflicts of interest if it remained unaffiliated to any TO, there are wider issues for consideration. These include the introduction of additional complex interfaces for both the NETSO and for customers, the required competence and expertise, a risk that it would tend towards conservatism in design, a limited ability to incentivise its performance without a substantial balance sheet, and a need for a new licensing regime / legislation to bring such a body into force.

Timing

Timely solutions and regime flexibility will be key to the avoidance of industry investment stagnation as a result of uncertainty, whether due to financial, planning, or regulatory regimes. Ofgem should therefore give serious consideration as to whether quick win solutions that provide certainty are available ahead of any ITPR conclusions.

Our thoughts on the specific questions raised in the open letter are provided in the Appendix.

We are happy to discuss our views contained within this letter further should that be helpful. For further details, please contact Louise Wilks (louise.wilks@nationalgrid.com).

Yours sincerely,

Mike Calviou
Director, Transmission Network Service

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Appendix 1: Detailed questions within the Open Letter

1. **Do you think that the key issues as outlined in the open letter should be considered? What is the materiality of the issues identified?**

2. **Are there any other issues that should be considered in this area?**

The four key issues outlined in the open letter broadly capture the issues evident today when considering efficient and economic transmission network development. The challenge however will be to establish frameworks that are not only enduring and well defined, but also flexible enough to cope with the inevitable project evolution as the energy industry continues on its path to de-carbonisation and European integration.

Achieving a co-ordinated network design

The more pressing issue for us as NETSO of those identified in the open letter is how to achieve the right outcome for the end consumer when investments cross multiple TO boundaries with differing incentives, with a willingness to co-ordinate is not always evident.

There are a variety models which, to varying degrees of effectiveness, could support the delivery of a co-ordinated overall transmission network, and range from a centralised design approach to a more market led option.

Centralised design

A more centralised approach to design across all footprints, with de-centralised delivery, will in effect guarantee a co-ordinated outcome given all planning and design is done by one party. A centralised approach is used in many European countries today, and is the model that a number of parties are advocating to drive forward wider European transmission development of the network required to support the single European market.

Decentralised design

A decentralised design model on the other hand where developers decide on the capacity and location they require (and work with those TOs impacted) could provide for different approaches to design, innovation and overall project strategies which may ultimately drive benefits for the end consumer. This model is currently used for Developer led Interconnectors, and also for generator self build of offshore radial assets, and works well when there is a single customer or a clear market price for the value of the transmission capacity. However, it appears more challenging in the case of offshore assets that provide wider system benefits to many users. It is for this reason; co-ordination under the offshore regime is being looked at in more detail. Delivery under this model is also de-centralised.

Co-ordinated design

A more middle ground approach would be to seek co-ordination in wider strategic GB transmission network design requirements but allow for a variety of detailed design and delivery models. This not only protects the consumer from inefficient transmission system development over time, with one party accountable for overall co-ordination, but allows for the innovation benefits that arise from differing detailed design and delivery perspectives.

These models are shown in more detail overleaf. Where the responsibility is shown as ‘SO’, this is a generic system operator role and does not pre-suppose which party will undertake this role. Also in practice network design has many component parts; for the purpose of the models below strategic

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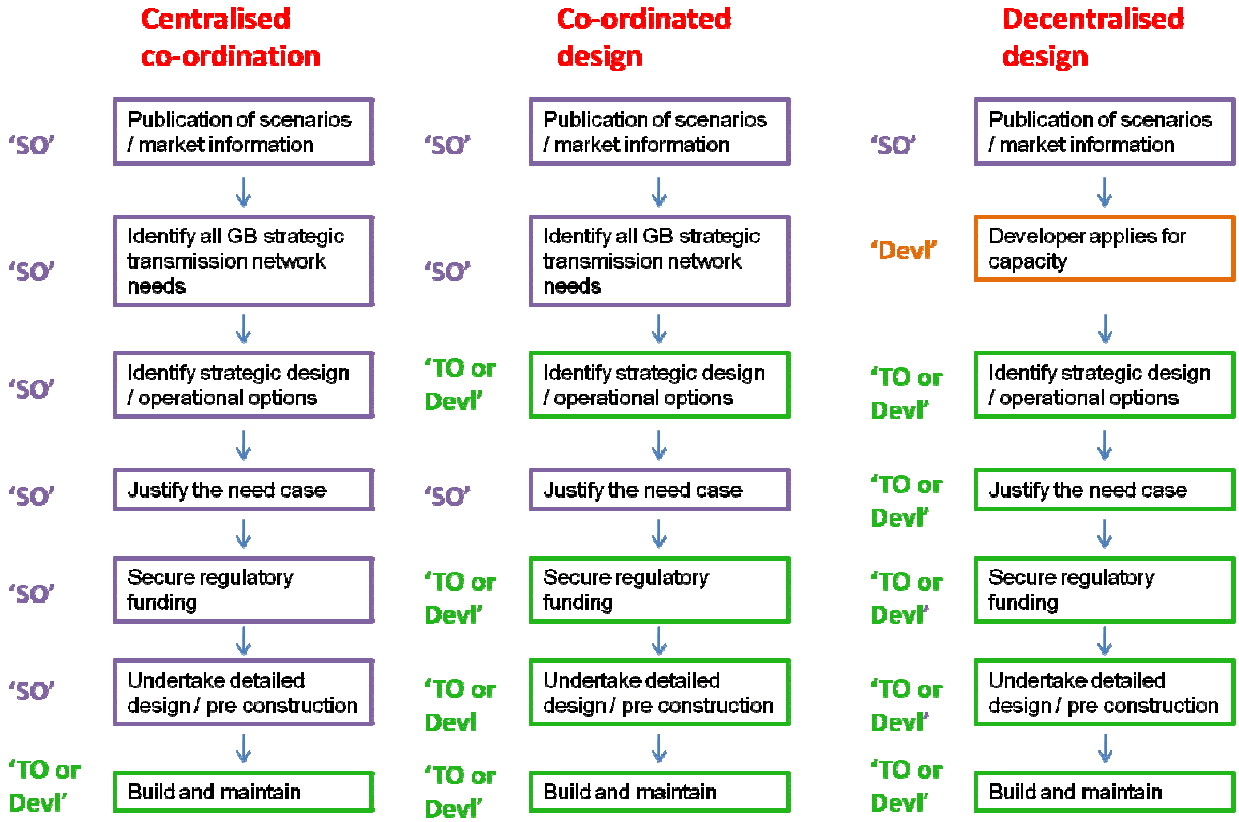
network design is relatively high level and identifies the capacity shortfall. It does not provide detailed design options, or consider what reinforcements may be required at a more local level.



Ensuring the right risk and reward balance for consumers

In deciding how best to achieve co-ordination, the question of risk will need to be dealt with. Any well designed and well built transmission asset will carry an element of risk within the overall project and may count for as much as 20% of the total project cost. Clearly, the more integrated the design and delivery, the greater the potential to mitigate these risks – something that is evident in the decision of offshore generators to retain responsibility for design and delivery under generator self build.

Co-ordinated design with disaggregated delivery potentially amplifies the challenges faced in ensuring the timely delivery of transmission infrastructure. Disaggregation creates the need for managed interfaces which can introduce delays and inefficiencies into the process whilst parties seek to establish their responsibilities and liabilities. Decisions regarding strategic design solutions will be also are impacted by the preferred contracting strategy, which in a disaggregated model, would be the responsibility of a party other than the strategic designer.

All of these things have the potential to introduce additional risk into the process, and will require clarity on the allocation to ensure consumers are not faced with a transfer of risk. The best means of managing such this in a disaggregated design and delivery model will be to ensure sufficient planning oversight exists.

Who should drive co-ordination?

Driving co-ordination to deliver the wider public interest is consistent with an extension of the NETSO role and clearly has merit. The synergies with the existing role, our technical and operational knowledge, the ability to link evolving customer requirements to the developing need cases for

network development and the potential for regulatory incentives to drive efficient strategic network design means that this is a sensible approach. We recognise that extending the NETSO role may raise concerns with stakeholders in relation to perceived potential conflicts of interest, but it is possible to mitigate these concerns through the introduction of further safeguards - for example, transparency surrounding decision making.

Within England and Wales, the integrated nature of our business means that co-ordinated transmission development in the interest of the consumer has been more readily achievable. Where possible, we have sought co-ordination across TO / Developer footprints but inevitably customers are focussed primarily on what is needed for their own project rather than wider system benefits. Improving coordination is becoming increasingly critical as cross border capacity increases and different types of project emerge on the path to de-carbonisation and market integration.

The alternative is to create a new body which is accountable for overall co-ordination. Whilst this would remove the potential for conflicts of interest if it remained unaffiliated to any TO, there are wider issues for consideration. These include the introduction of additional complex interfaces for both the NETSO and the customer, the required competence and expertise, a risk that it tends towards conservatism in design, a limited ability to incentivise its performance without a substantial balance sheet, and a need for a new licensing regime / legislation to bring such a body into force.

However one important question will remain for debate, namely where does the accountability, and therefore the decision making responsibility, for network design sit. Within our England and Wales footprint, we are currently finalising the NDP with Ofgem which sets out how wider works (including strategic works) will be taken forward. Its aim is to facilitate the development of the optimum onshore network against a backdrop of significant generator uncertainty allowing for stakeholder engagement and transparency of decision. In particular, it allows for the consideration of a range of future network boundary capacity requirements against a number of potential scenarios, which then enables the identification of a selection of reinforcement candidates. The output is then used to determine a need case for transmission investment, and forms part of the regulatory funding decision.

We see no reason why a similar approach should not be adopted for co-ordination of GB wide strategic design, providing important information on whether to fund TO / Developer anticipatory investment to Ofgem. The output of this wider GB NDP would also provide input into decisions regarding projects competing for capacity or conversely, decisions to halt investment where circumstances no longer justify the investment. This approach is consistent with the suggestion within the Ofgem's recent offshore consultation that the NETSO should provide the need case in order to support anticipatory funding requests of Developers / OFTOs.

Any change to the current NETSO role to do this wider coordination and strategic network design will however need to be appropriately funded.

3. How effective are the current arrangements in representing all GB entities' interests within ENTSO-E?

4. How material is the impact of these arrangements on representation of the GB transmission system developments in the TYNDP and other related European activities?

It is timely to reflect whether the current arrangements adequately allow for the representation of the wider GB TSO interests within ENTSOE. In our role as NETSO, we clearly have a strong interest in all work areas of ENTSOE in ensuring that developments meets the requirements of the GB regime in the continued delivery and operation of a safe, secure and efficient National Electricity Transmission System. The licensing regime within GB however has created a number of new TSOs whose input to certain aspects of ENSOE work may be of benefit.

For this reason, if other stakeholders believe worthwhile, we are happy to widen our role within Europe to allow for consultation with, and representation of all GB TSOs that are currently absent from the

ENSTO-E table. Thought will need to be given however to the information sharing constraints placed upon ENSTO-E members and whether it is possible to share the necessary information under the current ENSTO-E framework, as well as the appropriate treatment of any costs associated with this.

Looking specifically at the Ten Year Network Development Plan (TYNDP), all GB TSOs that undertake system development activities (ourselves and the Scottish TOs) have the opportunity to appropriately participate in this process. However, the TYNDP 2012 process has highlighted issues with ENTSOE's selection criteria for the inclusion of third party developer projects. We agree that this is a material area for concern and one that was captured in ACER's opinion on TYNDP 2012:

> *"The Agency emphasises the importance of ensuring equal treatment of TSOs' and the third party's projects. For this reason ENTSO-E should allow all third party projects to be included in the future TYNDPs, requiring third party projects to provide the same kind of market and grid studies as TSO projects and to provide sufficient level of detail with regard to capacity levels open to non-discriminatory third-party access. The Agency also encourages dissemination of the procedure to a wider audience to ensure that there is full transparency and stakeholder involvement throughout this process".*
>
> *"The Agency recommends ENTSO-E to add in an appendix of future TYNDPs all the third party projects which have applied and to explain how they are treated within the TYNDP".*

We have worked with ENTSOE to significantly revise the criteria that will be used for the inclusion of Third Party projects in TYNDP 2014 and these are currently subject to consultation by ENTSOE with relevant stakeholders. We will continue to work within ENTSOE to ensure Third Party developments are appropriately represented within future TYNDPs.

5. How effective are the current business separation arrangements the transmission entities are subject to?

6. How material is the impact of the current arrangements on efficient network development?

7. Where networks are increasingly integrated, are there other areas where the question of conflicts should be considered?

Business separation requirements are an essential and familiar feature of incumbent onshore transmission licensees. Stringent data separation requirements are in place today, and are at the right level with respect to the NETSO and the onshore Transmission Owners, something which we have sought to clarify further as a result of our recently completed organisational design review. This is also true of any unlicensed business under the wider National Grid umbrella where clear and rigorous separation processes are in place. We are also looking to improve the transparency surrounding System Operator decisions (including any such relating a wider role relating to ITPR) such that clarity over both the decision criteria and any outcome is much increased.

The extent to which separation is evident within other developers or transmission owners is less clear. The undertaking of pre construction activities whether for the wider benefit of the transmission system or for specific developers is likely to require access to wide ranging generator information both offshore and onshore. All parties will need to act as a TSO and use this information for the purposes that it is intended for.

Information provision is an important part of any efficient network development. The current framework allows for relevant commercial and technical details to be shared with a prospective transmission developer in order to allow the design of the optimal solution. This information is shared under the SO-TO Code (STC) for the purposes of developing the transmission system. The problem arises however where projects are led by developers, whether offshore or interconnectors. As these are not certified as TSOs until the end of the process, there is a limit to the information that can be

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provided ahead of certification since they are not bound by the obligations in the STC. This issue is particularly sensitive when the developer has generation interests.

As with onshore transmission parties, Ofgem should consider whether all parties undertaking transmission activities (licensed TOs or project developers) should be subject to appropriate separation requirements. This would allow for a level playing field within any tender process to subsequently appoint the constructing party.

8. Do you agree that the issues associated with multiple purpose projects should be considered?

9. What is the impact of the issues you identify as relevant? In particular, how do they affect multiple purpose projects?

The majority of the issues arising as a result of multiple purpose projects do so because of the piecemeal nature of the regulatory regimes which are not flexible enough to allow for the multitude of different network arrangements that might arise.

In determining the regulatory regime to be applied to multiple purpose projects, Ofgem need to first decide on the purpose of the assets in question – transmission, interconnector or generator connection. Any asset (132kv and above) serving multiple users or purposes is, by its very nature, transmission and should be classed as such. This will then trigger the relevant established commercial, charging and regulatory treatments (GB and European), thus providing greater clarity and certainty to developers. It is not necessary to create another regulatory regime to deal with multiple purpose projects.

The open letter raises the issue of sequential development such that assets may change categorisation over time as new projects come along. This is not a new issue per se and can also occur onshore. The key to mitigating the issue of asset re-classification post commissioning however, and avoiding the regulatory issues that arise from this, will be strategic network co-ordination and regime flexibility such that asset use is anticipated and therefore catered for from the outset.

10. Do the issues capture all the potential regulatory barriers?

11. Are there any other issues to be considered in this area?

As part of the open letter, the right issues have been identified for further investigation. With the benefit of time, it will always be possible to identify further issues which do not quite sit properly within the existing regulatory regimes. However, the risk with continuing to ascertain whether all issues have been identified is that issues arising today are solved on a piecemeal basis, and may set a regulatory precedent for future projects.

In order to avoid project stagnation, a clear framework is required as soon as is practicable that gives industry participants the regulatory clarity they require to commit the necessary capital and resource to the path to de-carbonisation.