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Mathew Grant
European Electricity Transmission
Ofgem
9 Millbank
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Dear Mathew,

Consultation – Connecting Non-GB Generation

Transmission Investment is a leading developer and owner of offshore transmission assets, and we have been particularly successful in the connection of renewable generators to the British electricity market.

Along with Alderney Renewable Energy and French grid company RTE we are currently developing the France-Alderney-Britain (“FAB”) cable. This project will strengthen the highly congested connection between France and Britain, and will allow renewable energy from the channel island of Alderney to be brought to the British electricity market.

We are therefore pleased to have the opportunity to respond to your paper *Regulation of the transmission connecting non-GB generation to the GB electricity transmission system* of 18 November 2013.

Our answers to your specific questions are attached as an annex. An important point, which arises throughout our responses, is that we believe that Ofgem needs to simultaneously develop two approaches to regulating the transmission infrastructure associated with non-GB generation:

- i) In the short-term a simple regime that can be implemented without legislative changes is required for “direct and exclusive” connections. Without having such a regime in place there is a risk that progress on non-GB renewable generation projects could stall due to lack of regulatory certainty.
- ii) At the same time work should start on a regime that can accommodate non-GB generation which connects to an interconnector between two markets, or which has a priority right to access an interconnector. With such arrangements a single piece of infrastructure can perform dual roles

(interconnecting two markets and providing a route to the GB market for non-GB renewable generation) with consequent economic benefits.

We believe that with this approach non-GB renewable generation will be able to progress the development of its infrastructure without delay, and will also be able to convert to the most economic design once suitable regulatory arrangements are available. Published figures regarding the benefit of combining interconnection and renewable generation connections show that there would be a strong incentive on all parties to move towards such an arrangement.

It should be noted that for some projects (including the FAB cable) the infrastructure is economically viable as a stand-alone interconnector. For such projects the onus is on Ofgem to put in place a suitable regime for regulated interconnectors so that development of the infrastructure is not delayed. Once the regime for connecting non-GB generation to interconnectors is complete, this infrastructure can also be used to combine the connection of renewables and interconnection of markets, with the same economic benefits.

If there is anything that you would like to discuss in more detail please let me know and we would be delighted to assist.

Yours sincerely



Sean Kelly

Partner

Chapter 1

Question 1: *What are the key milestones for the delivery of non-GB generation and connections pre-2020? How does the decision on the regulation and licensing of non-GB connection fit into this timeline?*

In our experience international power cables, using HVDC technology, might take three years for development and consenting in GB (it can be longer abroad) with a further three years for construction; exact times will depend on cable length and on how busy factories are. We also note that many projects, including FAB, have already started this three year development process.

From this we conclude that completion of projects by 2020 is feasible, but that time cannot be lost if the 2020 target date is to be met. In particular we note that more regulatory certainty is urgently required if developers are to push forwards with their projects to meet the target date.

Question 2: *From the perspective of a non-GB project developer, how does the decision on the regulatory arrangements interact with Government decisions on renewable support (such as the award of a Contract for Difference (CfD))?*

Transmission Investment is a developer of transmission assets rather than a non-GB generation developer. Nevertheless we see a number of interactions between the regulatory arrangements for transport of power to GB and the renewable support arrangements:

- i) The regulatory arrangements will affect project economics (e.g. by changing the transmission tariffs charged to projects) and hence will affect the level of renewable support required.
- ii) Any delays in deciding the regulatory arrangements will delay the date by which the renewable generation will be in service. This could affect the level of support available, and even whether support is available or not.

Question 3: *Are there other factors that Ofgem should be aware of relating to the timing and development of non-GB connections?*

In order to avoiding delaying the development of projects two regulatory structures need to be developed in the short term:

- i) A simple mechanism for non-GB renewables with a direct and exclusive connection to the GB grid.

- ii) A regulated regime for interconnectors between two Member States (ie without any generation connected).

At the same time, and with input from NSCOGI, etc, a mechanism that provides for integrated infrastructure can be developed (by “integrated” we mean a cable that is both an interconnector between markets and a route for transporting non-GB renewable generation to GB). This work is less urgent, but should be completed within 2-3 years so that it is possible to for projects that will in service by the 2020 target date to incorporate these arrangements before they start construction.

Chapter 2

Question 4: *Do you agree these are appropriate principles to take into account in relation to non-GB connections?*

Our view in respect of each of the principles is as follows:

- Protecting consumers from undue costs and risks. We agree with this principle, but note that as well as costs and risks importing renewables may also bring reduced risks and costs (e.g. access to cheaper renewables or lower wholesale prices through increased interconnection)¹. We would suggest that “maximisation of risk-adjusted benefits for consumers” might be a better target than “protecting consumers from undue costs and risks”.
- Promoting efficient costs reduction. We agree with this principle and note that the success of the OFTO regime in Britain shows how savings can be made by a well designed regulatory regime.
- Promoting efficient and co-ordinated development. We agree with this subject to our response to question 3 above. A priority should be to introduce regimes that allow projects to proceed without delay so that the 2020 target date can be met.
- Supporting investment in low-carbon generation. We agree with this principle.

Question 5: *Are there other principles that we should also consider?*

In addition to these principles, we believe that Ofgem should refer to the British Government’s objectives for further interconnection, as set out in the DECC document “More Interconnection: Improving Energy Security and Lowering Bills”. We

¹ We note for instance that National Grid has reported studies that showed that the construction of 3GW of interconnection would reduce consumer costs by £1bn a year. (Source: transcript of National Grid half-yearly results presentation, 21 Nov 2013.

note that in this document DECC makes reference to the British Government's support for ten Projects of Common Interest; many of these – including FAB and several cables to Ireland – involve the connection of non-GB generation.

Chapter 3

Question 6: *We invite views on our interpretation of the different asset definitions/boundaries and interpretation of the legislation provided in this chapter. What implications does this have for the regulatory options presented in the next chapter?*

We agree with Ofgem's interpretation of the Electricity Act, ie. that any cable linking Britain to non-GB generation falls within the Act's definition of an interconnector.

The situation in relation to the Electricity Regulation is less clear in the case of cables that connect only a non-GB generator and the GB grid, but we agree that Ofgem's position does provide consistency between the definitions under British and EU law.

Question 7: *We are interested in views from stakeholders on what impact alternative interpretations would have on potential projects? Please provide detail where possible.*

In the case of the FAB project we believe that there is no ambiguity regarding the status of the project. Since FAB will, from the start of its operation, connect the national transmission systems of two member states it is an interconnector under all definitions.

Question 8: *We seek input from stakeholders on how generation licensing for non-GB generation could ensure appropriate safeguards for the export of renewables to the GB transmission system?*

Requiring non-GB generation that connects to Britain to be licensed by Ofgem as well as by its host country appears to be an unnecessarily complex way of ensuring compliance with the same standards as GB generators.

A simpler and preferable arrangement would be for any technical requirements² of the non-GB generation to be applied through a contract between NETSO and the non-GB generation. If necessary, the export-cable owner could be obliged through its

² The introduction of a common European Network Code should mean that (at least for generation in other EU countries) most technical standards will already be in force.

licence to ensure that any non-GB generation has such an agreement in place before it is connected.

Chapter 4

Question 9: *Are non-GB connections deliverable by 2020 via direct and exclusive connections?*

As noted in our response to question 1 above, typical project timescales are compatible with delivery of the connections by 2020 – subject to regulatory uncertainties being rapidly resolved.

Question 10: *What are the technology challenges of delivering direct and exclusive connections? What are the technology challenges of delivering multi-purpose assets?*

Direct and exclusive connections will require a braking resistor to absorb the energy being generated if the GB grid momentarily cannot accept it. A multi-purpose link that involves connecting generation to a HVDC cable will require a three-ended HVDC system. We do not consider either of these arrangements to be particularly risky, and examples are already in service outside of GB.

In general we do not see the proposed infrastructure for non-GB generation as being inherently different in risk level to the HVDC projects that are proposed or under construction within the RIIO framework. As a result we do not believe that technology risk should be a factor driving the regulatory model selected.

Question 11: *What are the potential benefits and challenges of enabling flexibility for a non-GB connection to also be used for a) market-to-market trading; and b) GB network reinforcement? What are the implications for investment certainty?*

The benefits of using a single piece of infrastructure for both transporting non-GB renewables to GB and for interconnecting two markets are potentially very great. In addition to our own work on the FAB project we note the analysis³ undertaken by EirGrid and National Grid which shows a 1.3 year payback from converting a dedicated cable providing an export route for non-GB generation into dual-purpose infrastructure that also interconnects the British and Irish power markets.

³ “Connecting Wind Generation in Ireland to the Transmission Systems of great Britain and Ireland”, February 2013

We are not aware of any similar published work setting out the feasibility and benefit of wheeling power through another country rather than reinforcing the GB transmission network and would welcome the publication by National Grid of the analysis underlying its interest in such arrangements.

As we have set out above, the only way to achieve these benefits from multi-purpose infrastructure while also providing the investment certainty necessary if projects are not to be delayed is:

- i) For Ofgem to rapidly provide simple regimes for direct & exclusive non-GB generation and for conventional market-to-market interconnectors.
- ii) For Ofgem to provide a regime for integrated infrastructure within a few years.

The benefits discussed above will incentivise developers to convert to their projects into dual-purpose infrastructure once a suitable regime is announced.

Chapter 5

Question 12: *Is the interconnector licence with exemptions(s), as currently available, a feasible option for non-GB connections? If not, what are the key challenges of applying this route to non-GB connections? How could these challenges be addressed?*

In principle we believe that using an interconnector licence with exemptions should be feasible where this is acceptable to the non-GB regulatory authorities.

However we note that exemptions will require approval by European authorities, and we do not know if Ofgem has sought guidance for this option from the European Commission. In particular we would have concerns that the Commission might be unwilling to accept arrangements where all capacity is long-term reserved to a single party with no possibility of “use it or lose it” being applied (due to the asset being physically disconnect from all other possible users).

Such arrangements may be more acceptable to the Commission if Ofgem can show that it is working on a long-term regime that will allow increased third party access to the cable.

Question 13: *Under this route would an exemption (under Article 17 of the Electricity Regulation) be required? If so, which provisions would you seek exemption from? How would your project be affected if exemptions could not be applied for?*

If an exemption is being sought we believe that the probability of acceptance will be maximised if the exemption requests covers only the areas where exemption is essential:

- i) Since a direct and exclusive connection only physically connects to one generator, there is a de facto exemption from Third Party Access.
- ii) If the infrastructure owner is to obtain their revenue from the generator under a privately negotiated deal then an exemption from the regulation of tariffs will be required so that this private deal cannot be set aside.
- iii) An exemption from restrictions on the use of revenue is also required if the deal referred to above is not to be overridden (ie there is a need to avoid the cable owner's return on investment being redirected to the construction of more interconnectors).

Note that we do not believe that a case can be made for an exemption from the rules on unbundling. As demonstrated by the success of the OFTO regime, there is no requirement for bundled ownership of offshore infrastructure serving renewable generation.

Question 14: *Given that an application of the regulated Cap and Floor or fixed revenue model would take time to implement for non-GB connections, should these still be explored further?*

The cap and floor regime cannot be applied to direct and exclusive connections, as there is no revenue from capacity auctions to be subjected to a cap and floor. It also cannot be readily applied to projects where part of the aim is to increase capacity on the GB grid.

Thus the cap and floor concept is only relevant for projects which combine market-to-market interconnection with the connection of non-GB generation, but which do not increase capacity on the GB grid.

In effect the cap and floor concept "falls between two stools", being neither suitable as a simple mechanism for early deployment nor as a complete approach useable in an enduring regime.

We agree with Ofgem's assessment regarding incentives: the incentives provided by a regulated model with a fixed base revenue (typically linked to availability), are more appropriate for a project involving generator connection.

Finally the fixed-revenue approach will be more attractive to infrastructure investors, who will generally prefer incentive arrangements based on availability (which they

understand and can influence by good asset management) rather than incentives based on market parameters (over which they have no control).

Because of these deficiencies we do not believe that cap & floor based approaches should be developed further for non-GB generator connections.

Approaches based on fixed revenues should be developed further, as these are well suited to providing a longer term “enduring regime” that will enable multi-purpose international infrastructure.

Question 15: *If so, what are the main challenges and benefits of applying a regulated Cap and Floor or fixed revenue model to non-GB connections? How could these be addressed?*

Given issues with the cap and floor concept set out in our answer to Question 14 above, we have not considered this option further. Instead we set out below the benefit of the fixed revenue model (as an enduring model) relative to the exempt model (which is better suited to early direct and exclusive connections):

- i) A fixed-revenue model helps to incentivise any extra investment needed to yield the design with the greatest benefit for consumers. (In contrast exempt interconnectors are incentivised to ensure continued congestion, and there is no incentive to provide benefits to the GB grid).
- ii) The approach is likely to be more acceptable to the European Commission. The risk that Brussels could refuse to grant exemptions is removed.
- iii) The fixed-revenue model is more attractive to investors, and hence projects using it will benefit from a lower cost of capital. Consumers will gain from this through being able to reduce the strike prices paid to non-GB generators and through the distribution of surplus congestion rents.

We therefore support Ofgem’s decision to continue to explore the merits of options that would “provide a fixed revenue for non-GB connections without legislative change”.

Chapter 6

Question 16: *What is the appropriate mechanism for ensuring access to capacity for non-GB generation?*

For direct and exclusive connections capacity reservation is achieved by having only one generator physically connected. In principle this one generator should be able to participate in the GB market in the same way as domestic generation (ie registration of balancing units as if the generator was sited at the GB connection point of its associated cable).

For combined generation and interconnection, arrangements will need to be in place to allow non-GB generators whose financing is based on access to the GB market to reserve interconnector capacity from their own Member State to GB for 15 years or more.

As these are contrary to normal EU arrangements for interconnector access, we would expect that special approvals would be required from the European Commission, possibly on a case-by-case basis, until such time that general guidance can be issued. We would presume that approval will be more easily obtained where generators physically connect to their associated interconnectors, but in principle arrangements where the non-GB generator wheels power across the existing transmission network of its host Member State before reaching the export interconnector could also be considered.

In many cases where interconnection and exporting-to-GB generation are combined, the generation will be required to comply with the technical and commercial connection rules of its host member state and will access the interconnector through mechanisms that (apart from the long-term capacity reservation) are the same as for other interconnector users.

For FAB, where the non-GB generation is in a crown dependency partially administered by the UK rather than in a foreign Member State, a somewhat different situation exists. Alderney has no transmission system, no regulator for transmission assets and hence no existing connection rules. We have proposed – and the Alderney authorities have accepted – that Ofgem’s remit be extended to cover Alderney and that GB connection rules be applied on Alderney.

Question 17: *What are the implications of following the current connections process for non-GB connections? Should non-GB generators be treated differently to GB based generation? Should non-GB generators be treated differently to other interconnector users? If so, please provide your reasoning.*

There is a need for:

- i) An arrangement for “direct and exclusive” connections that can be rapidly implemented so as to minimise regulatory uncertainty. Where possible, this should seek to re-use the current connection process.

- ii) An enduring solution that allows integration of generator connection, and market-to-market interconnection. This is likely to require a new form of connection arrangement.

Question 18: *How would the role of the interconnector operator need to adapt if a direct-connect asset was used for additional purposes – such as a) market-to-market interconnection; or b) GB network reinforcement? Should the GB or non-GB NETSO have a role in operating these assets? If yes, what role?*

We believe that in the long term extending the remit of an independent NETSO to include the operation of interconnectors and multi-purpose projects is desirable. This would involve NETSO operating all of the assets regulated by Ofgem within an international infrastructure project. By “operating” we mean allocation of capacity to users, levying of tariffs on those users, and managing the payment of a suitable regulated return to the infrastructure owners.

However, as noted previously, Ofgem should ensure that simple short-term arrangements are available so that non-GB renewable generation projects are not delayed while waiting for NETSO’s role to be extended and for the necessary NETSO business separation arrangements to be put in place.

Question 19: *Can the existing charging/cost allocation approaches used onshore or for interconnection be applied to non-GB connections? If not why not and what alternatives are available?*

The current approaches to charging will need some modification:

- i) For a direct and exclusive cable the current approach to interconnector charging (i.e. prices set through implicit and explicit auctions) cannot be applied. The approach used on OFTOs would be attractive in principle, but we doubt that it can be put in place quickly enough to avoid delaying projects. We believe that the best short-term arrangement would be for tariffs to be set through private arrangements between the non-GB generation owner and the cable owner.
- ii) For projects where non-GB generation connects to (or has long-term access to) an interconnector between two markets, an entirely new tariff mechanism is required. This should reflect both the cost of providing the infrastructure, and the relative proportions of use for exporting non-GB generation to GB and for trading between GB and non-GB markets. We have already done some work, within the context of the FAB project, on

the form that such a tariff might take and would be happy to discuss this with Ofgem.

Question 20: *How can capacity allocation for direct and exclusive connections ensure consistency with European legislation and European Network Codes? How could this be achieved with the introduction of market-to-market connections?*

Cables built to carry renewable energy to Britain from non-GB generators do not readily fit into any of the categories of transmission established by European legislation. It is possible, therefore, that case-by-case approvals by the European authorities may be required, at least until such time that suitable standard arrangements are established.

As previously noted, we have already obtained such a case-specific approval for the FAB project.

Question 21: *Are there other challenges we should be considering when looking at non-GB connections?*

No – we believe the analysis set out in the consultation paper is comprehensive.