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Future Energy Networks Team
DECC
By email gridaccess@decc.gsi.gov.uk

Dear Sir/ Madam,

RenewableUK consultation response to DECC Improving Grid Access - Technical Consultation on the model for improving grid access.

About RenewableUK

RenewableUK was established in 1978 as the British Wind Energy Association and is the representative body for companies active in the UK wind, wave and tidal energy market. Its membership has grown rapidly over recent years and now comprises over 500 companies, representing the vast majority of connected wind, wave and tidal capacity. The UK has a rich variety of renewable energy resources and the largest wind, wave and tidal resources in Europe. These resources must be exploited to meet UK, European and Global needs to reduce greenhouse gas emissions and avert the runaway effects of global temperature rise.

Overview

We have answered the questions in a summary form and provided more details behind our responses in a separate additional information section below.

Response to Consultation Questions.

1. **Do you agree that the proposed model for reforming grid access would best meet the Government's objectives for this reform?**

RenewableUK welcomes the confirmation of socialised 'Connect and Manage' as the way forward and the results of the 'Redpoint' consultants work[1] (and DECC's review of it) that indicates that the constraint costs associated with this approach are lower than originally estimated by a number of other studies.

We want to see the revised arrangements implemented as soon as possible.

We are concerned that arrangements made by DECC through this process should not be subsequently undone by others who do not support this reform.

Infrastructure investment should continue alongside Connect and Manage, particularly given the long term goals of reducing the carbon in electricity to <100g/kWh by 2030[2] and the government's goal of 80% carbon emission reductions by 2050.

We would particularly welcome comments on:

• The definition of 'enabling works';

We would like to thank DECC for the additional paper on Enabling Works published during the consultation period.

We have a number of concerns around the definition of Enabling Works and associated definitions such as Maximum Enabling Works. We have covered these in more detail in our additional information section below.

In our view worked examples of Enabling Works and Wider Works are required to clearly understand exactly how the definitions may be interpreted by the NETSO & TOs. Without increased clarity, investment confidence will be affected plus the bankability and cost of capital of renewable projects will be negatively impacted.

We expect that it will become apparent that there is a considerable degree of misunderstanding in industry, which results from the way the definitions are put together – we hope that our suggestions in this respect will develop clarity.

We wish to clarify that Enabling Works are site specific and driven by the SQSS assessment in particular we would note different connections could have:

1) No Enabling Works and no Wider Works – yet could still be subject to Connect and Manage – i.e. there may be times when such projects are constrained.
2) No Enabling Works and just Wider Works.
3) Enabling Works but no Wider Works.
4) Both Enabling and Wider Works.

And

[1] 'Improving Grid access: Modelling the Impact of the consultation Options' see document list at:: http://www.decc.gov.uk/en/content/cms/consultations/improving_grid/improving_grid.aspx

[2] Committee on Climate Change

5) Wider Works could existing between the Generation Connection Site and the nearest MITS (5 circuit) substation.
6) Enabling Works may be extended at a generator's request and we have made further comments on this proposal below.

In our view the scope of Enabling Works and Wider Works in relation to the nearest "MITS" substation requires clarification given the options that either or both Enabling and Wider Works might:

- Not be required at all.
- Not extend as far as the nearest MITS substation.
- Extend somewhere between the connection site for new assets and the nearest MITS substation.
- Extend all the way between the connection site for new assets and the nearest MITS substation.
- At a generator's request extend beyond the MITS substation.
- Extend beyond the MITS substation when required to do so in the reasonable view of the TO/ NETSO.

The Enabling Works are determined primarily through Para 2.9 linked to Para 2.8.5 of the NETS SQSS. The methodology here is open to sufficient interpretation to have a very significant impact on outcomes. At present the interpretation will be at the discretion of the TOs and NETSO and there will inevitably be occasions when developers disagree over that interpretation. Therefore we are looking for:

- Clear transparency and reporting of the decisions made by TOs and NETSO in this respect.
- A route to appeal any decision.
- Greater guidance from DECC on expected outcomes in terms of the amount of C&M connected and the levels of constraints, e.g. based on the levels of in the Redpoint report.
- A continuing review by DECC of NETSO and TO decisions – especially over the first 12 -24 months of operation of the new regime.

• **The process for derogation from the SQSS;**

As part of the SQSS review we would like to see the SQSS changed so that derogations are not generally needed for renewable generation given that it primarily is in place to reduce carbon and not for the purpose of meeting peak demand.

The SQSS economic criteria Appendix E should be rewritten specifically to cover Connect and Manage and take account of the constraint costs vs. the benefits of early connection including:

- The value of carbon saved.
- Additional TNUOS revenues.
- Reduced market prices.

• **The extension of user commitment;**

For most renewables projects, the capital investment in the generation plant means that the project will have an enduring life, and will generate whenever resource is available (i.e. output will not change with fossil fuel and electricity market prices) providing greater certainty over future transmission commitments regardless of user commitment.

RenewanbleUK are carrying out a review of use of system charging at the moment and plan to produce a paper on charging in May / June. Some initial ideas to solve this include charging for energy not capacity and discounts in charges for those who make longer term commitments.

• **The transition arrangements.**

In our view comments on transitional arrangements are best left to those with transitional projects as there may well be details in the proposals that require attention from the benefit of specific project experience.

2. Do the proposed licence and code amendments deliver the policy aim?

No. We have serious concerns about "get out" clauses like:

- 13.2.4.7 Avoid any adverse impact on other Users".
- 13.2.4.3 Enables The Company to operate the National Electricity Transmission System in a safe manner";

In our view such clause are subjective, unhelpful and unnecessary and potentially undermine the whole thrust of the change to Connect and Manage.

3. Do you think there are any other changes to industry codes and licences or any other actions needed to implement the model?

Yes. It is clear that the drafting does not allow unlimited connect and manage and yet it very unclear about the limits that are to be put in place – leaving the decision primarily to the NETSO's discretion. We want to see:

- Guidance to Ofgem on how to determine any disputes between generators and the NETSO or TO over interpretation of Enabling Works in particular.
- Publication of all decisions on Connect and Manage, Enabling and Wider Works offered to projects, so that generators and other parties can see non discrimination in action.
- Changes to the SYS to publish opportunities for Connect and Manage in terms of capacities available, and enhancements with Enabling and Wider Works.
- A requirement on DNOs to accommodate exporting GSPs under connect and manage and not to thwart connect and manage for distributed generation due to exporting GSPs.

Additional information in support of question responses above.

Constrained Connections with no Enabling Works and no Wider Works.

A scenario of connect and manage without any transmission reinforcement works is based on the economic optimum transmission network which balances constraints costs vs. transmission costs. In an economic optimum system there will always be constraints. This is especially true for remote parts of the network with expensive transmission reinforcements and variable generation. If there never are any constraints then the networks have been over-engineered.

In these circumstances it is moot as to whether such a connection would constitute a Connect and Manage application or not. Such a scenario may not be possible until after the review of the NETS SQSS. The NETS SQSS review must recognize the fundamental economic optimum that requires constraint costs to persist in an optimum system.

No Enabling Works and just Wider Works.

In many cases generation can be connected whilst local reinformcents are completed so that these local reinformcents would become Wider Works rather than Enabling Works. In the short term, constraint costs may be higher for the local generation, however they will be mitigated by a reduced need to constrain other plant due to bottlenecks deeper in the system (i.e. due to deeper Wider Reinforcements). A degree of judgment is required as to what is acceptable in terms of those short term constraint cost changes and the other benefits it would bring in terms of carbon emission reductions, increased TNUOS revenue and lower market prices.

Extended Enabling Works

We note that considerable part of the consultation and code changes are dedicated to the option for generators to choose to extend the Enabling Works. We have called these Extended Enabling Works. We have the following observations.

If the Extended Enabling Works are required by the SQSS, the works would otherwise be classed as Wider Works. Therefore, the proposals should allow generators to request that some of the Wider Works be completed before they connect. The code changes should not result in the confusion of Wider Works with Enabling Works. If these Extended Enabling Works are not required by the SQSS we are concerned that these works and not necessary for an efficient transmission network and should only be allowed subject to additional TNUOS payments by the generator. We note that there is no mechanism for such charges at present.

We note that the term Wider Works in this respect is used in section 5.16 of the consultation.

Maximum Enabling Works

The term Maximum Enabling Works has been construed for the sole purpose of allowing "Extended Enabling Works" – see above. The definition of Maximum Enabling Works is confusing as it includes Wider Works as well as Enabling Works.

Under the current definition it would not allow a generator to request Wider Works to be completed before their connection, where those Wider Works were between the Connection Site and the nearest MITS substation. Subject to our comments on Extended Enabling Works above we do not believe this is the intention behind the drafting and could lead to problems later.

We suggest that the problem can be resolved by:

- Removing the definition of Maximum Enabling Works;
- Creating a new term Contracted Enabling Works.

Contracted Enabling Works would allow the generator to contract for Works that were Wider Works so that these would be completed before the connection was made.

The definition would be along the lines of: "Contracted Enabling Works – the Transmission Reinforcement Works agreed between a generator and the System Operator which shall not be lesser in extent that the Enabling Works."

Such an approach would have the advantage of removing all reference to MITS substations and simplify the regulations and inevitable anomalies created.

And as an example the revised definition of CUSC exhibits would be as follows:

1. We confirm we do not/do want the **Contracted Enabling Works** to be greater in scope than the **Enabling Works**.

2. If you want the **Contracted Enabling Works** to be greater in scope than the **Enabling Works** specify the concerns, reasons or technical requirements that you are seeking to address by this.

CUSC definition of Enabling Works.

CUSC 13.2.4.1 refers to the NETS SQSS "pre-fault criteria" set out in Chapter 2. Pre-fault criteria are defined in section 2.9. However 2.9 refers to the background conditions in 2.8.5 in particular, which refers to 2.11, which in turn refers to 2.10.4 to 2.10.6, which cannot be read in isolation for the whole of 2.10. The whole section has circular references. In the review of the SQSS we would expect the "pre fault criteria" to be clarified.

It is vital that the current interpretation of the SQSS and the review of the SQSS take account of the following:

- Outages, both planned and fault outages, can be managed by connect and manage. Unless other impacts arise, the full transmission capacity of all circuits should be used. In the event of a fault and an overloading of other circuits, intertrips can be employed to safely manage the transmission system.

- The system can be designed with Connect and Manage so that equipment loading could exceed the pre-fault rating, unless Connect and Manage actions are taken. I.e. the generation capacity can exceed the pre-fault rating of an intact pre fault network.

- Under Connect and Manage the system can be designed so that system instability and voltage excursions would occur in some circumstances, but where these circumstances can be eliminated through Connect and Manage actions.

- Connect and Manage should allow generation to connect whilst reinforcements are being made so that in the short term constraints would be expected to be higher than in the long term. In this way Transmission Reinforcement Works will be increasingly classified as Wider Works as opposed to Enabling Works.

- Under Connect and Manage, diversity or loads and generation must be considered so that unacceptable transmission conditions can be managed through constraints. In the extreme: maximum generation, minimum demand and transmission outage must not be used to determine Enabling Works.

We would welcome the opportunity to discuss our comments in more detail with DECC in the near future.

Sincerely,

Guy Nicholson
Head of Grid, RenewableUK.