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Dear Jonas,

**Natural Power Consultants Ltd. Response to Ofgem consultation on  
Transmission Investment for Renewable Generation**

Natural Power Consultants (NPC) are a leading renewable energy consultancy firm based in Scotland. Within Scotland we have consulted on a range of projects at all stages of development. We work with client who have projects in possession of current grid offers, and other projects making approaches for grid offers pre and post BETTA implementation, in both the transmission and distribution networks. As such we are ideally placed to comment on requirements for transmission investment for renewable generation and the effects these proposals will have on the Scottish renewable energy sector.

NPC would like to thank you for the opportunity to respond to these initial proposals and have outlined our views in the following pages.

## **Assessment of efficient investment**

NPC note the three classifications of project identified by SKM, these being;

- Baseline investment
- Incremental investment
- Additional investment

Projects are categorised in the SKM study by determining the potential constraint costs from not upgrading the transmission system against the required investment costs for upgrading the transmission network to prevent constraint cost being paid.

Comments were invited by Ofgem on the following:

### The SKM estimates of the level of renewable generation likely to connect

NPC estimates the likely level of renewable generation looking to be connected within Scotland by 2010 as in the region of 2500 MW. We would agree that the estimated figures of SKM are broadly correct within the current distribution network arrangements.

NPC would like to point out however that, should the charging methodologies indicated in the recent NGC consultation document on transmission charging be implemented, it is likely that the SKM predictions for new renewable generation connection will be proved to be too high. We reach this conclusion based on the estimated £7 per MWh Northern Highland TNUoS charges which would result from the locational signals within the proposed charges.

### The appropriate levels and values of the constraint costs

NPC feel that if a categorization of projects based on constraint costs is to be used it would be most appropriate that constraint costs reflect the full costs to the consumer of constraining off a wind farm. This would be the reality of the situation as the majority of new generation will be through wind farms in remote areas requiring upgraded connections. We would therefore recommend the use of "Economic valuation of renewable generation costs" as outlined in section 4.11 of the document.

Using the true value of constraint costs is essential to achieving the correct investment balance. It is worth noting that although the full value of the ROC would be paid to the generator who is constrained off no ROC electricity will be getting generated during times of constraint. As such suppliers would fall short in their renewable energy obligations and further costs could be passed onto the consumer. Ofgem should consider how these further costs will be reflected in the economic valuation ensuring that the cost to the consumer of not upgrading the transmission network is fully reflected.

### The assessment, classification and criteria used for the projects

NPC broadly agree with the assessment classification used for the projects within Table 1 and Table 2 although we do not agree that the constraint costs have been fully assessed and as such some projects may require transfer to a higher category. Particularly we have concerns that the England Scotland Inter-connector is being assessed purely on cost of constraint grounds. This inter-connector is essential to

creating a single GB electricity market. The GB market currently has two distinct grid systems, one in England and Wales and another in Scotland. Until the Inter-connector is upgraded there will continue to be unduly high TNUoS charges in Scotland. It would seem appropriate therefore to take BETTA into account when assessing this project, as well as the forecast breakeven capacity. As such NPC believe that in the interests of creating a genuine GB transmission network the Inter-connector project should be prioritized.

#### The review of GB wide transmission security standards

NPC welcome the review of GB wide transmission security standards. We are of the opinion that these standards are overly conservative and that a significant amount of spare capacity would be released within the transmission networks through this review. Release of this spare capacity would benefit the industry and the consumer. We would also suggest that releasing spare capacity would be a good way to prevent stranded assets and preventing the payment of constraint costs. We would be concerned if the review had an adverse outcome, increasing the amount of redundancy within the system as we can see no justification for increased redundancy. However we expect that any such review would have a positive outcome for renewable generation.

#### **Proposed Adjustment Mechanism**

NPC are in broad agreement with the proposals and the identification of baseline, incremental and supplementary incremental projects. However we believe that a BETTA factor should be applied to the Inter-connector project which would move it into the baseline category in the interests of creating a true GB market.

We are also concerned that the decision not to authorise investment in some other projects at the current time, although justified on economic grounds, could send out the wrong signals to developers, particularly in the Highlands and Islands. There is a danger that the low risk attitude of NGC with regard to transmission investment may become a self-fulfilling prophecy. Developers may fail to invest because of grid connection uncertainties and the negative signals from NGC. NGC could then feel satisfied in having been right not to invest. NPC feel that a strategic element must be applied to the economic models categorising projects.

NPC welcome the flexible approach taken in ensuring that mechanisms exist to progress projects which are not in the baseline category. However we are concerned that the future GB transmission operator NGC will not be willing to take any project risk and will see no advantage in progressing projects where there is any risk of failing to meet the number of connections required for the revenue driver to cover the project costs. In such circumstances there must be an incentive to NGC to take the project risk. It is therefore essential to provide additional rewards for projects which perform beyond the baseline in order to balance out the project risks. Even with these additional rewards it is still unclear to NPC what incentive exists in a monopoly situation for NGC to take a project risk.

Long term access arrangements with developers would appear on the surface to be another good solution to removing risk, however this could only be applied where

projects have approved planning permission, otherwise the risk is transferred to the developer. Developers would also be concerned about the payment of transmission charges on a long term agreement. Developers who have facilitated the transmission investment through long term agreements would be keen to ensure that they gain some benefit from this commitment over developers joining the system later. The area of longer term commercial arrangements needs further clarification and analysis in later consultation documents before NPC could assess the viability of such proposals.

## **Conclusions**

Although a method of project classification is undoubtedly required to best determine the project investment priorities, NPC are of the opinion that the method proposed by SKM could create political and public relations problems for the renewable energy industry, particularly for wind farms. The policy could lead to operational wind farms in certain areas of Scotland being constrained off the transmission network for large portions of time, probably at times of peak output, until the cost of transmission upgrade falls below the cost of constraint. Although this may make perfect short term financial sense from a transmission investment point of view, the policy ignores the need to fully utilise the output from renewable generation projects and the effects that a lack of ROC electricity will have on the electricity market and the consumer.

It would do the wind industry no favours to have wind farms offline while the owners receive constraint payments for not generating electricity. The benefits from wind farms in reducing CO2 emissions and combating climate change must be demonstrated through full utilization of output if they are to be accepted by local communities. Getting constructed wind farms online and keeping them online is the only way Ofgem can keep the cost of electricity down within a market forecast to have increasing ROC prices and increasing fossil fuel prices. In doing so they can also help to meet UK government targets for increasing renewable generation and reducing CO2 emissions.

If constraint costs are to be used as a measurement for determining the investment requirements for the transmission system it is essential that the full costs of constraint including the likely effects on the ROC system of constraining off large quantities of renewable energy are taken into account.

The failure to place the inter-connector project into the baseline investment category is an error. This project should be regarded as baseline in the interests of creating a single GB electricity market. Without upgrade to the inter-connector TNUoS charges in Scotland and particularly in northern Scotland will be unreasonably high under the proposed charging methodologies and will restrict the investment in renewable energy. This will again have an adverse effect on ROC and electricity prices.

A review of the transmission security standards is welcome and long overdue.

A flexible mechanism for facilitating the transmission investment required is essential, however suitable incentives must be put in place for NGC to take risks. Long term arrangements between developers and NGC are an interesting proposition requiring further exploration.

Finally, NPC would like to comment on all the overall mechanisms being put in place under BETTA the aims of which are ensuring competition and keeping the cost of electricity for the consumer low across the GB system. In seeking to achieve these goals Ofgem should not lose sight of the financial perspective of investors. The forecast increase in renewable energy projects will only become a reality if projects can be successfully financed and project finance will only be provided if there are clear measurable mechanisms, with trigger points for transmission investment, upon which banks can forecast. The proposals outlined in this consultation document, like so many issued under BETTA, lack the clarity which financial institutions require. They add further uncertainty in the decision making processes and therefore reduce the chances of achieving the rise in renewable generation which must take place if the UK electricity consumer is to be insulated from increasing fossil fuel prices. Therefore Ofgem must take more consideration of the requirements of investors if it is to meet its own objectives.

With the BETTA process now reaching a conclusion we are left concerned that parallel BETTA consultations will not fit together suitably and the finished BETTA system may have conflicting mechanisms, creating project finance problems. We trust that these concerns will be proved unfounded.

On behalf of Natural Power Consultants Ltd.

**Scott Mackenzie** BEng MIEE

Senior Technical Manager