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Dear Tanya

Responses to Consultation – Cluster Charging Methodology

We welcome the opportunity to view the responses to the Utility Regulator's Connection Charging Consultation and, at this time have responded, as requested, on the particular item of the Cluster Charging Methodology proposals.

We note that there will be an opportunity to engage on the other matters considered in the Consultation at a later date and we will be pleased to offer comments at that time.

Clusters

Nine respondents commented on this subject. All but one fully supports the Option 3 approach which we have proposed. The last party would prefer NIE to estimate the size of the denominator based upon the quantum of wind applications lodged with Planning.

One area where most parties have difficulty in accepting our proposal is the size of the first transformer. We believe that 60MVA is appropriate whereas the industry generally believes that 90MVA is appropriate. There are two issues in regard to this:

- The first is that our objective is to avoid barriers to entry whilst still ensuring a low risk that the connection costs will not be fully recovered, which would be contrary to the interests of customers as a whole. We believe that, in most locations, 60MVA best manages both risks.

- The second issue is more technical. We purchase transformers which are 60/90MVA. That may not be our future practice for wind farm clusters which may require a different specification. On the existing transformers the 60MVA rating is set with no forced cooling, whereas the 90MVA rating is achieved with full forced oil cooling. The rating also takes some account of a loading cycle on the transformer. This becomes even more important if the transformer is slightly overloaded. With traditional load, we believe that we understand the pattern of electrical heating which the transformer experiences day on day, but the stochastic nature of wind makes that more uncertain. We have initiated a university project which aims to better inform us and, if the results are reliable, we will share them as appropriate. In the meantime, especially with one transformer substations, we are reluctant to run the risk of a transformer being severely life-shortened.

- One respondent notes that the cost difference between a 60 and a 90MVA unit is small and that is correct because a 90MVA unit is generally constructed as a 60MVA core with forced cooling. However, to have an adequate level of comfort that a 90MVA rating can be used for wind, given present knowledge we might need to purchase a 120MVA unit which would have significant extra cost. Notwithstanding this, if we can become comfortable that the risks of using a 60/90MVA transformer at 90MVA rating for wind farm clusters are manageable, we would propose to use 90 as the denominator in clusters where there is a clear understanding that 90MW or more generation will apply for connection. If, on the balance of probabilities, that high generation capacity level cannot be demonstrated we would propose using 60 as the denominator. The logic behind this accepts the point made by respondents that there is little difference in cost between a 60 and 90MVA provision. Therefore the site development would cost the same with either 60 or 90MVA capacity. If the entire cost is to be returned to customers, and only about 60MW of generation is expected, then the denominator for smaller sites is set to 60 – the safe rating of the transformer. By allowing it to go to 90 in larger clusters, NIE would be accepting a slight risk around the transformer performance.

Several respondents are concerned that the second transformer is charged in full initially to the project if and when required. They consider that only the MW used should be charged. We still contend that this defeats the objectives of the charging proposal. The objectives are to recover the cost for customers whilst removing barriers for entry. These two objectives are better achieved by our proposed method.

Some respondents also note that if cluster assets are taken back to become system assets they should be refunded. That is correct and we have already responded to that, but indicated that the refund rules still need to be reviewed. We will proceed with that work as soon as the general principle is approved.

SONI interprets the consultation as implying that the 110kV line to a cluster might become a system asset. That is not our understanding. We believe that it will remain a shared connection asset. SONI requests a greater involvement in the cluster design. Those issues are correctly dealt with through the wind and planning panels established under the control of the TIA. We will ensure that the matter is dealt with accordingly.

One respondent seeks to ensure that NIE only charges the cluster with the minimum cost for the cluster and that if we do more work than LCTA we would still only charge the cluster with the LCTA. That is correct and in-line with our general charging principles.

The UFU envisages 33kV clusters of 11kV generators because farmers may group together to set up such projects. This is to be welcomed and we recommend a similar charging approach be adopted for such lower voltage clusters.

An ocean energy developer believes that NIE needs to consider now how to connect banks of ocean energy devices. We assume that the developer believes that we should treat them in some way like clusters although the text draws attention to the difference between ocean energy arrangements and on-shore wind. The developer also suggests that a Connection Agreement might be offered soon for a much later development. We could accept that a group of ocean energy developers in an area could be a cluster but very early Connection Agreements should be approached with caution since it could be argued that they would “hog” capacity.

There is an additional issue which emerges when considering off-shore arrangements. In GB there was a need to consider off-shore network licensing and we have drawn this issue to the attention of DETI. Also we have an emerging priority for backbone 275kV development and our sense is that developing to the west rather than the north better manages the uncertainty risks at this time. We would therefore propose to refute the suggestion that connection agreements should be provided ahead of time. However, NIE accepts that we will need to become better informed on the approvals processes and timescales for off-shore energy and we propose to plan a workshop with developers. It would be more beneficial to hold this shortly after the licensing round for Crown Estate seabed has been determined.

Conclusion

NIE considers that it has taken full account of the points made by the consultees in relation to cluster charging. On balance, we believe that there are potential clusters where a denominator of 60 would be justified but there are other potential clusters where a denominator of 90 would not pose a large risk to recovery of customer funding. Therefore we suggest that the following phraseology could be adopted, "Provided that NIE is convinced that a 60/90MVA transformer can be used in windfarm circumstances and still retain a 90MVA rating; then a denominator of 90 will be applied in circumstances where there is clear evidence that 90MW[1] of wind power will be connected. In circumstances where there is not sufficient evidence that 90MW or more of wind will seek connection, a denominator of 60 will be applied to aid funding recovery".

The total capacity that can be connected to the cluster will ultimately be determined by the limiting capacity of the lowest rated equipment, e.g. the transformer(s) capacity or overload capability of transformer, or the line capacity.

NIE will publish a list of clusters with capacity denominators on its website by summer 2011.

Yours sincerely

Gordon Dunlop
Regulation Officer

L 110218 Cluster Charging Methodology

[1] This is based upon an assumption that the distribution system generation does not significantly exchange reactive power with the transmission system so equating MVA and MW.