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20th January 2005

Dear Richard,

GB Transmission Charging: Revised Proposals Consultation

I have set out below SSE's response to the above consultation.

There are a number of specific areas where Ofgem has asked NGC to undertake further work before being able to approve the charging methodology. It is our understanding that Ofgem has already concluded that other features and parameters of NGC's methodology are capable of being approved.

Our comments in this response are therefore restricted to the areas which NGC were specifically requested to address. You will appreciate that these comments are made on a without prejudice basis and we reserve the right to amend these views as the process develops or exercise any remedy available to us to protect our position.

We continue to have serious concerns about the model itself as a suitable mechanism for setting GB tariffs. Despite this, we believe it would be possible to have an acceptable version of the model in place at BETTA go-live, which could be followed by a more thorough review of the charging methodology. There are a number of concerns that we have already raised regarding the model which are still relevant and we would refer NGC to our earlier responses. However, in this consultation there are a number of further issues, in particular:

- The means for dealing with negative demand charges;
- Calculation of expansion constants;
- Treatment of Spare capacity – in particular its relationship with the security factor; and
- Unit cost of incremental capacity

Our specific comments on these areas are set out below.

Negative demand charges

We continue to believe that it is inappropriate to make payments to customers for using electricity. Apart from the perverse signal it gives to them, it would also mean that embedded generators would have to pay to generate electricity at the peak time, the very time at which their output is most required by the system operator. We continue to believe that negative demand charges are the result of the extreme locational signals produced by the model that are not in fact cost reflective. As demonstrated in earlier responses, this problem can be addressed in a number of ways such as the expansion constant, the security factor and the treatment of spare capacity.

Ofgem have stated that NGC's earlier solution of applying a 10/90 split to the revenue recovery between generation and demand (the G/D split) was not a proportional solution to the problem of negative demand charges. However, NGC's proposal to revert to a 27/73 split of revenue exacerbates the extreme locational signals of the model. In fact, this decision alone results in location charges for north of Scotland generation higher than any figures previously presented in any of NGC's consultations. It is normally the case with such consultations that the range of possible outcomes narrows with each consultation. That this final consultation throws up a result that is higher than any previous number so close to final implementation gives generators no chance to respond to the "locational signal". It therefore amounts to a fine on Scottish generators because of their historic (rather than forward looking) locational decisions.

Furthermore, we believe that simply setting an arbitrary cap of zero in conjunction with resetting the G/D split does not adequately address the problem and results in a cross subsidy.

We therefore believe that the issue of negative demand charges should be resolved by reducing the expansion constant and/or the security factor as discussed below.

We also believe it would be appropriate to review the G/D split of charges since the European charges are expected to be harmonised so that the G charge is zero in total. We therefore believe the split should migrate to 0/100 as soon as possible, and that this should be clearly signalled. Otherwise there is a risk that generators will close as a result of these extreme charges, that would otherwise continue to remain viable.

As a consequence, we believe that NGC should start to phase in the movement towards G=0 in 2005/06 with a G/D split of say 20/80 which would also address the issues of negative demand.

Calculation of expansion constants

275kV weighting factor

In NGC's earlier consultation a simplified weighting factor was used to represent the proportion of 275kV circuits that might be upgraded to 400kV. This not only greatly understated the proportion of such circuits but also failed to reflect the situation in each of the licence areas. The latest proposals use a TO specific weighting factor, which is an improvement on the previous assumptions in the model, but is still not cost reflective.

By using such an average, the length of the 275 kV lines which are built to 400kV construction or planned for 400kV upgrade is overstated, increasing the locational price for generators at the end of them. In addition, these are the very lines that it is important to use the correct expansion factor for, since they are key to the future expansion of the system.

We have previously provided information on the specific lines that are built to 400kV, which has been used to calculate the weighting factor. We can see no reason not to use these circuit specific parameters.

Indeed, given that 80% of the GB 275kV transmission system is built to 400kV specification, we still see no reason to use different expansion factors for the 275 and 400kV circuits. An economic model requires that the most efficient means of providing capacity in the long run should be used. This implies that the same factor should be used for 275 and 400kV as in NGC's model A.

275kV expansion constant

Even if a separate expansion constant for 275kV is used, NGC have not justified the scaling factor of 1.74 relative to the 400kV factor. Many 275kV lines are already built to 400kV specification. Indeed, the TO specific factors indicate that the vast majority of new build is to 400kV specification. The cost of such a line is therefore fixed at the 400kV level which NGC have justified elsewhere. The expansion constant is expressed in terms of £/MWkm and since the £ and km are common to the calculation in this case, the only difference in the expansion constant for the 275kV line relates to the MW capability. In a DC load flow, the MW capability is directly proportional to the voltage of the line, so the cost in terms of £/MWkm of operating

the 400kV line at 275kV is $400/275$ or 1.45. NGC have used a scaling factor of 1.74, which cannot be justified.

If a 275kV line is built to 400kV specification then the relative factor is 1.45. If it is built to a lighter specification then the cost should be less, in which case the relative factor would be less than 1.45. If for some reason it cost more, or had a cheaper construction with a disproportionately lower MW capability resulting in a higher cost in terms of £/MWkm, then the factor of 1.45 should be used, since this is a more economical means of providing additional capacity. For an economic model there can be no justification for using a higher figure.

Treatment of circuits with spare capacity

NGC have illustrated the spare capacity argument by using a radial circuit to a generator. Our earlier arguments are based on the fact that ignoring spare capacity combined with using a security factor of nearly two overstates the cost. This can be illustrated using NGC's same model, in which it must be noted that the cost to the customer would not be £9,780, but $£9,780 \times \text{security factor of } 1.8 = £17,600$ since the security factor is built into the tariff calculation and cannot therefore be ignored.

This means that the generator is paying the full cost of the circuit even though it has 50% spare capacity.

This means that if the security factor of 1.8 is used, then spare capacity must be recognised – in this case by scaling the length to 50% - otherwise the generator is being overcharged. Alternatively, if the security factor is not used (i.e. set to 1 rather than 1.8) then there does not have to be an adjustment for spare capacity, since this automatically contributes to security of the system.

This point has been made in responses to previous consultations and has not been addressed.

Unit cost of incremental capacity

Ofgem has asked NGC to review the unit cost of incremental capacity, since evidence presented by various parties in response to the earlier consultations indicated that a factor lower than 9.8 would be relevant.

We continue to believe that there is a good case for using a significantly lower expansion constant, and certainly no higher than £9/MWkm.

Yours sincerely,

Rob McDonald
Director of Regulation