

# **RWE Innogy response**

## **Transmission Charging and the GB Wholesale Electricity Market - Part 1**

**Ofgem/DTI Consultation of August 2003**

### ***GB Framework of transmission charges (Chapter 5)***

1. Generally RWE Innogy supports the use of a single charging methodology for GB. The different charging arrangements currently employed in Scotland and England & Wales creates distortions that are frustrating competition and leading to economic inefficiency and increased emissions. If these are allowed to persist then there is the prospect of significant unnecessary additional transmission investment to accommodate the growth in renewable generation sources anticipated by government policy.
2. We believe that the methodology applied in England & Wales is essentially the appropriate approach for devising charges for use of the transmission system. The locational signals provided by the approach will, over time, result in a more efficient use of the existing transmission assets and help ensure that new investment is contemplated only where this is economically justified.
3. Because the England & Wales methodology is based on a model of the transmission system it is important that this model is developed to reflect the system in a reasonably representative manner. Although the transportation model that is currently employed has produced pricing signals that have had a demonstrable influence on the siting of generating plant, and possibly larger electricity loads, it is a relatively crude approach and does not reflect the physics of the system.
4. A DC power flow model that is now contemplated would provide a better description of the system against which to assess the impact of incremental changes in demand and generation. However, if the charging methodology is to be developed in this manner then it will only improve the economic effectiveness of the general approach if the model has a sufficient degree of sophistication. In particular it should include those elements of substation based assets that are dependent upon changes in power flows resulting from variations in demand and generation at a location.
5. We would agree that the responsibility for a GB transmission charging methodology should be a matter for the SO rather than the TO. This should enable charging arrangements to be developed objectively for all parts of the transmission system. If there are concerns that the GB SO might devise arrangements that favour the transmission system in its ownership

(paragraph 5.23), then these concerns are really to do with permitting the GB SO to continue to retain ownership of transmission assets.

6. These concerns might be addressed, as is suggested in the consultation, by the GB SO adding to the relevant objectives in Condition C7A the express objective that the charging methodologies should not discriminate against transmission licensees, although LC C7C 1 already has a general non-discrimination provision. We would suggest that there may be a need to expand on this provision to make it clear that TOs generally should be required to comply with the same conditions required of Licensed Electricity Operators where they provide services that compete in some measure with those provided by the TO. The measurement of electricity consumed by voltage compensation equipment (reactive power) would be an example of the type of situation envisaged.

### ***Implementing a GB Charging Regime (Chapter 6)***

7. Transmission charges have two distinct purposes. The first is to provide a signal of the economic cost that will be incurred by siting generation or load at any specific location. The second is to enable the overall costs of the transmission system to be recovered. The first purpose is addressed by the sophistication of the ICRP model that is adopted as discussed above. The second purpose should be addressed through wider regulatory principles. It is wrong to construe the locational element of the TNUoS charges as recovering a specific proportion of the permitted revenue recovery under the price control. At present this may account for 20 – 25% of NGC's total allowed revenues (paragraph 6.18), but this is the net of the locational charges and credits and will change over time as the marginal costs of the system change.
8. Nonetheless the issue remains as to which group of users will provide the balance of the allowed revenue that is to be recovered, how this is to be split between generation and demand, and how embedded generation should be treated. The latter issue is further complicated by the current proposal that the 132kV system, to which most significant embedded generation will be connected, is to be designated as a distribution system in England & Wales, but a transmission voltage in Scotland.
9. RWEInnogy is of the view that the value of transmission access is intrinsically associated with the value of the electricity produced at a location. It is for this reason that it has generally opposed attempts to construe transmission access as a separate commodity to the energy that is transported.
10. Because of the inter-relation between transmission pricing and electricity market prices we believe it appropriate that the model for deriving locational

signals in transmission charges should be congruent with the boundaries of the wholesale market covered by the pricing hub. The boundaries of a market area will also be determined mainly by the degree of congestion. Only when the congestion costs become excessive should a second market area be contemplated. The current transmission charging methodology recovers the cost of resolving congestion (transmission constraints) within the area of the wholesale market as a uniform tax on all MWh produced and supplied.

11. The development of BETTA is predicated on there no longer being a significant cost of congestion between Scotland and England. If there were then a more efficient model would be to recognise two separate pricing hubs, one for Scotland and one for England. Consequently it follows that the derivation of the locational signal in the pricing arrangement should be on a GB basis.
12. In a European context transmission assets that join adjacent market areas are effectively “interconnectors” and will derive their investment value from the differential between the wholesale prices in the relevant power exchanges for the market areas that are joined. Where one SO makes use of the system covered by an adjacent SO it is now generally agreed that compensation payments should be made, which in turn will either increase or reduce the non locational element of the cost recovery. Our view is that on grounds of economic efficiency this component of the charge should fall directly on load.
13. In the context of GB whilst we believe that the locational element of the charge needs to be treated uniformly across the market, it would be conceivable for the non-locational element to be differentiated geographically. This might be appropriate if the cost recovery permitted by the price control was in respect of widely different historic costs of providing transmission assets in different parts of the country. Indeed distribution costs are differentiated geographically on just this basis. Applying the non-locational element of the overall charge only to load would address the concern (paragraph 6.24) that its geographical differentiation would inhibit competition in generation and supply since generation and price elastic demand would not be exposed to it.
14. Notwithstanding this we are of the view that provided the locational signal in the charging arrangement are properly derived then, in a GB context, there may be little to be gained by trying to allocate the residual of the price control target on a geographic basis. Attempting to find an allocation rule that would be judged as equitable might well prove impossible. The arbitrariness of the boundaries chosen for the price control revenue recovery may of itself distort the elegance of the economic signal provided by the locational model.
15. In addressing whether embedded generation should be subject to transmission charges the consultation paper identifies two “principles” in the

present charging arrangements (paragraph 6.32). These are that all transmission generators pay transmission charges, and that some classes of distribution connected generation are exempt from these charges. This is more a statement of practice than a statement of an underlying principle.

16. We would suggest that the relevant principle is that generation that imposes a cost on the transmission system should contribute to the reimbursement of those costs to the extent of the costs it imposes. This implies that to obtain consistency between the treatment of generation of varying sizes connected at various voltages a similar model to that used for the transmission system is needed for at least the higher voltages of the distribution system. In some instances this may indicate that a generator connected at 132 kV or below might obtain a credit for connecting generation at this voltage because it obviates investment that would otherwise have been needed if the generation had connected at 275kV or 400kV.

**RWE Innogy response :**  
**Transmission Charging and the GB**  
**Wholesale Electricity Market - Part 2**

**Ofgem/DTI Consultation of August 2003**

***Transmission Charging and Renewables (Chapter 7)***

1. Although we would sympathise with the DTI's difficulty in reconciling the apparent confusion between Articles 4.1 and 4.2 of the Regulation we are of the firm view that the intent is to create a system of transmission charging that is based on sound economic principles. As such the resultant charges should not be held to discriminate against any group of users and thus should be in accordance with Article 7.6 of the Renewables Directive.
2. In this respect we believe that the DTI may not have analysed fully the outcome of the application of the marginal cost signals on a GB basis. The conclusion that appears to have been drawn is that the impact of the England & Wales approach in Scotland will lead to excessively high transmission charges for renewable generation. As a result DTI are contemplating mechanisms that would support "peripheral" renewable generation provided this support was "proportionate".
3. Treating a particular class of generation preferentially within an economic framework of transmission charging undermines the object of creating that framework in the first place. If after a GB methodology has been applied, it becomes clear that the transmission charging methodology creates difficulties for meeting the government's policy objective then it would always be possible to contemplate additional support for "peripheral" renewable generation. However, this should be outside of the economic framework of transmission charging which should be allowed to function properly.
4. If the economic basis for transmission charges is applied uniformly across GB then many of the existing distortions should be removed. This in turn will release transmission capacity for development of renewable generation in areas that might be considered "peripheral" without the need for excessive investment. Furthermore most if not all renewable generation will be embedded in the distribution system and thus exposed not to the generation component of the charge, but to the credit it can obtain by reducing a supplier's liability.
5. Whilst this again brings to the fore the status of the 132kV system in Scotland, to which a significant proportion of renewable generation may connect, provided a consistency is achieved between distribution and transmission charging in the treatment of plant of different sizes, renewable

plant should not be disadvantaged. Consideration may need to be given to the effective capacity of wind generation (which effectively functions as an intermittent base load plant) to gain comparability with other types of embedded generation in deciding whether such generation should be treated as negative demand for charging purposes.

6. Our analysis suggests that the need for the support contemplated by the DTI is unnecessary as well as being inappropriate. Furthermore it would adopt an approach that is inevitably arbitrary. The economic charging model for deriving the locational element of transmission charges is a nodal model. The charging zones that have been used historically are to some extent contrived and their boundaries can change over time. Furthermore their relevance may disappear if there is a move to a nodal application of the charging methodology. Accordingly any attempt to relate “relative disadvantage” to population density would be to add further arbitrariness in devising a system of support.
7. Whilst most would probably agree that offshore wind is located in an area of low population density (paragraph 7.35) the significance of its location will not be its offshore site but where it chooses to connect to the licensed networks. It is important that the economic cost of this choice is properly reflected so that issues such as the “Solway Firth question” can be efficiently resolved. Anyway our understanding is that the Licence arrangements for network operators, and thus the charging methodology that could be applied, do not extend beyond the beachhead.
8. In conclusion, therefore, we would not support the proposals made in this chapter. The options that are considered would be neither efficient, nor well targeted, nor consistent with the general policy objective of encouraging the development of renewable generation technologies in the most economic manner. The application of the present charging arrangements in England and Wales to Scotland would do much to release transmission capacity that would then become available for a developing renewables programme.