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Dear Anthony

Electricity Transmission Charging: assessment of options for change; Ofgem consultation 188/11

The University of Bath has taken an interest in the principles and practices of network charging since 2005 when it undertook a study for Ofgem into the benefits that would derive from introducing an economic methodology for distribution charging[1]. Since that time is has conducted a sustained programme of research into various aspects of an approach based on Long Run Incremental Costs (LRIC) that has become an adopted methodology for pricing the use of EHV networks by around half of the major distribution businesses.

For much of the time its research has been funded by projects with Western Power Distribution plc and a substantial EPSRC grant with a key objective to unify transmission and distribution pricing methodologies. More recently it has continued this investigation as an adjunct to projects sponsored by the Low Carbon Network fund. The results of this research have been fed to the industry by way of a discussion group that has met on average twice each year. The group is routinely attended by some of the major distribution network operators, NGET and some suppliers. It has long been apparent that the economic efficiencies of LRIC would be equally applicable to transmission charging as a development of the ICRP methodology currently employed, although its implementation should reflect the intrinsic operational and planning differences of the network.

The Ofgem consultation paper notes the benefits of locational signals in permitting market participants to trade-off transmission charges against other cost considerations. It concludes with the initial view that “Improved ICRP” (IICRP) is directionally right for transmission charges although also notes that there is little to choose between IICRP and the status quo.

Whilst we would support the notion of reflecting congestion costs in transmission charges to those classes of generation that cause them, we have two major concerns with the IICRP methodology as it was expounded in the National Grid theme 1 proposal of August 2011. This suggested that the product of load factor and asset cost be used as a proxy for the congestion cost each technology imposed on the

[1] Network Benefits from introducing an economic methodology for distribution charging, 21st Dec 2005.
http://www.ofgem.gov.uk/Networks/ElecDist/Policy/DistChrgs/Documents1/12617-1206a.pdf

network, and that this should then be compared with the asset investment cost to arrive at the relevant charging parameter. Whilst making such a trade-off does indeed appear directionally right IICRP then selects the higher of the two costs to discern the appropriate charging base. For the approach to be economic we would suggest that it should be the lower cost that determines the parameter to be used.

Our second concern relates to the use of the anticipated load factor of the technology in deriving the assumed congestion (energy) cost. IICRP takes this as an appropriate proxy from the linear relationship observed in Figure 1.2 of the August 2011 theme 1 proposal. However, this simple relationship fails for wind generation which is intended to be the very focus of the revised methodology. Instead wind is shown to be a significant outlier with congestion costs greatly in excess of those predicted by the algorithm.

IICRP offers no differentiation between peaking and base load generators, although the two have very different market behaviours. Whereas peaking generators mostly come to service when the price is high, they can contribute to a higher or similar level of congestion cost over base loading generators, although their load factors can be significantly lower. There is also no differentiation in IICRP between low load factor renewable generators that are controllable, such as hydro plants and those that have intermittent outputs. Our view is that a more fundamental characteristic of a generator should be employed to reflect the congestion costs.

We have appended to this letter a presentation given on 3rd February 2012 to the industry liaison meeting that considers the research we have been pursuing. This presentation provides a commentary on the Project TransmiT study. It considers how the approach might be improved if LRIC were to supplant ICRP for determining the locational signals in transmission use of system charges, and how the approach could be extended from demand dominated to generation dominated areas. We should welcome the opportunity to explain the nature of these ideas before there is a conclusion to the transmission charging review.

The nature of our concerns does not lead us readily to answer the questions posed in Chapter 4 of the consultation document since these are based narrowly on the chosen approaches and the assumptions that underpin the associated modelling. We would hope that any changes to the pricing methodology should not frustrate technological innovation and thus compromise the sustainability objectives discussed in Chapter 5. In this regard we would support a methodology with an economic basis for network charging since this holds a better prospect for ensuring the overall costs of the transmission system, and thus the costs that must be borne by the customer are kept to a minimum. We would emphasise the merits of the LRIC approach as part of the overall charging methodology in this respect. As noted above we would welcome the opportunity to discuss the ideas in the presentation with you before publication of your final report.

Yours sincerely

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