Our Ref: R&S/18.0

Martin Crouch,
Director, Distribution
Distribution Policy
Office of Gas and Electricity
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24th February 2006

Dear Martin,

Electricity Distribution Use of System Charging: Bath University benefit analysis work

Thank you for the opportunity to both comment on and add our views to the issues that your letter and the Bath Report raise.

EDF Energy welcomes Ofgem's sponsorship of the Bath study as a step forward in understanding the impact of economic charging methodologies. We recognise your enthusiasm for charging models based on forward looking cost and share the desire to have generation and demand charging models aligned. Much of the work that EDF Energy has carried out to date has been to move away from the traditional Demand Reinforcement Model (DRM) to one based on forward looking costs.

We have made significant improvements to the pricing signals we send in the form of capacity based charges to the half hourly metered market. It would be possible to carry these signals to the profiled 5-8 market should mandatory half hourly metering be extended to these users. This is part of our commitment to delivering a charging structure which facilitates an efficient capital expenditure programme. We support the view that cost reflective tariffs, seen by customers, are a major part of this work.

We are however concerned that Ofgem appears to be accepting of the conclusions of the Bath Report. Our main issue is with the overly simplistic modelling based on assumptions which are not applicable to either the networks we operate or the users who connect to them. We believe that it would be wrong for Ofgem to end the study at this point. Indeed, future work needs to be carried out to address the 'Future Investigations' identified by Bath and also additional areas identified by respondents to your letter. We have included specific detailed points on aspects of the Bath work in the appendix to this letter.

It is evident, based on discussions at various industry groups, that there are significant areas of difference between the DNOs, the user community and Ofgem. These differences do not necessarily relate to what the outcome of this work should deliver, but on the method by which it will be achieved. In

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particular, it is clear from recent Ofgem comments at industry meetings and your conclusions to the Bath report of the need to :

- provide 'alternative evidence' of efficient reinforcement capital expenditure; and
- change the direction of existing project work.

In light of this, we will be sponsoring our own study into some of our specific long term reinforcement plans. The focus of this study will be to use actual long term reinforcement schemes and to model the effect that different charging models would have on deferring the need for the expenditure. The outcome of this work will be to implement, across EDF Energy's networks, the charging model which demonstrates the best overall economic signal. This will of course be put to consultation with the industry and be dependent on us achieving the required approvals.

This additional work will clearly impact on the original project plan we submitted to Ofgem in August 2006. Consequently, we would welcome the opportunity to discuss our revised plan and in particular the additional work we plan to undertake with Ofgem. We are concerned that due to the increasing complexity of this project and the number of outstanding issues that remain to be addressed that Ofgem's original desire of implementing long term models at April 2007 is impractical. Once we have completed the detailed assessment of the requirements of our additional work we will be in a position to update Ofgem on the likely timescale for implementation.

EDF Energy will continue with the work on new modelling approaches and continue to support the joint DNO work. However we believe that Ofgem should undertake a full regulatory impact assessment of the Structure of Charges project. We believe this is vital to ensure that the costs of work will deliver real benefits to customers.

I trust you will find these comments helpful. If you have any queries please do not hesitate to contact me on 01293 657848.

Yours sincerely

Colin Nicholl
Regulation and Strategy Manager
EDF Energy Networks Branch

Appendix 1: EDF Energy assessment of Bath Report.

1. **Reference Network.** The network architecture outlined by Bath is far too simplistic and unrepresentative of our networks. This is especially the case when compared to our London network (the architecture of which is unique in many important respects), but the model is similarly unrepresentative of some of the rural-based EHV 'ring' networks to be found in both the East of England and South East. Across EDF Energy's three licenced areas the utilisation proportions are 60% non-half hourly metered (predominately domestic), 30% LV & HV half hourly metered and 10% EHV (predominantly traction). This divergence from the reference network further dilutes the conclusions of the report.

   The rationale for the inclusion of dummy nodes is not significantly explained. There will always be points for additional connections on our networks and the impact at the time of connection would have to be modelled. Without further explanation they appear to be a convenient addition to further the justification of economic benefits. We would also comment that where networks are relatively highly utilised, which is typical of EDF Energy's efficiently managed networks, then the actual point of connection of a given incremental demand can have a very significant impact on the level of reinforcement required. This again limits the value of generic modelling to inform any appraisal of capital expenditure efficiency – at least in the short-to-medium term.

2. **Charging Models.** The base DRM model used does not deliver prices that vary with location. The methodology that EDF Energy uses for EHV tariffs does vary prices with location. At EHV our charges range from 16p/kVA/month to £4/kVA/month depending on the extent of the use of network assets. Therefore our EHV charges already deliver a significant locational signal. While we appreciate that there is scope to improve price signals, the inference of the report is that charges to EHV customers should be based not on the cost of their asset utilisation but on the basis of impending reinforcement more likely caused by other customers.

   LRIC models are deemed to lead to no demand reinforcement as new generation locates to demand locations. This assumption takes no account of security of supply and possible under utilisation/reliability of generation.

3. **Customer Behaviour.** The report does confirm that the demand price elasticity is very small. However;

   - For generic customer classes the published studies that are used are from Australia. While the economies may be similar there are significant differences in the causal nature of the peak demand. In Australia peak demand is caused and consequently avoided by the switching of domestic air conditioning, irrigation and swimming pool pumps; mainly non-essential demand. In the main, UK peak demand is caused by the overlapping of general domestic demand, street lighting demand and commercial/industrial demand, which in effect is more essential. Where local peak demands are caused by day-time air conditioning load in the UK, such as in many parts of central London, this is associated with heavily populated IT-intensive offices and, as such, represents essential demand. On this basis the Australian studies are unrepresentative of the UK and hence inappropriate.

   - For EHV connected load the study assumes that the customer will connect at the bus-bar demonstrating the lowest use of system charge. The reference network appears to make no allowance for the fact that other considerations, such as fault level and power quality constraints, may dictate the point of connection. A prime example in the case of EDF Energy would be the large volume of traction load that is connected to our networks (noting that EDF

Energy supplies all the major rail networks emanating from the capital – in particular the East Coast, West Coast and Midland main lines, and the intensive Southern Region third-rail network - as well as the London Underground network and the Docklands Light Railway). Additionally, planning constraints and availability of workforce are far greater economic considerations than the cost of the use of system.

- For generators, the assumption that they will site at the network location that will give the most favoured return is flawed in two important respects. Firstly, the introduction of more shallow connection charges provides a weaker locational signal for generators, but more importantly, considerations of connection charge are in any case outweighed by the location availability due to planning constraints and the utilisation economics of the technology at that location.

4. **Investment Model.** The approach used in the investment model defers the cost of reinforcement when generation locates next to the demand. This simplification does not take into consideration the utilisation/reliability of generation. Notwithstanding the provisions within P2/6, which EDF Energy acknowledge as being helpful in terms of recognising an appropriate level of contribution from distributed generation to system security, this does not obviate the need to ensure that installed system capacity is adequate to meet demand at all times, including for example during generator maintenance outages.