CE Electric UK

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Your Ref:

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Dear Martin

Electricity distribution use of system (UoS) charging: Bath University benefit analysis

CE Electric UK Funding Company (CE) is the UK parent company of Northern Electric Distribution Ltd (NEDL) and Yorkshire Electricity Distribution plc (YEDL).

We welcome the opportunity to comment on the study carried out by the University of Bath entitled *Network Benefits from Introducing an Economic Methodology for Distribution Charging* (the *Bath Study*). This study investigates whether there might be quantifiable benefits afforded by moving from the current charging arrangements to a new economic charging regime. In principle we agree with establishing signals to drive end-user behaviour to ensure efficient use and development of the distribution network. However, we believe that the *Bath Study* has some fundamental flaws that are likely to exaggerate the relative benefits of the Long Run Incremental Cost (LRIC) model. Certainly in the absence of further study no decisions should be made on the basis of the conjectures or conclusions of the *Bath Study*.

The *Bath Study* indicates that capital efficiencies, potentially in the region of £200m (over the period of the study) across the industry, may be achieved from charging in a more economic manner. However, we consider this to be an extremely bold statement given the number of underlying assumptions and the lack of transparency of the algorithms used to compute the benefits. Consequently, a considerable degree of caution is needed when contemplating how the conclusions should be applied. Further investigation into the impact of the assumptions, including some form of meaningful sensitivity analysis would be appropriate before any firm decisions can be made on the way forward. The study itself has a number of areas which cause us some concern:

- **The most effective locational signal** – The effect (in the study) of assuming a shallow connection boundary, with all the locational or siting messages contained in the use of system charge, is to inflate the scale of the benefits beyond those which may have resulted from a deeper boundary that is better aligned with current charging arrangements.

- **Types of model considered** - The Distribution Reinforcement Model (DRM) model was designed to accommodate the locational signal in the connection charge, so it is unsurprising that both incremental models give a more beneficial outcome. As distribution network operators (DNOs) and Ofgem are currently working together with the industry to establish an alternative mechanism it would be perhaps prudent to assess these models against this alternative.

- **The application of models at EHV only** - The *Bath Study* uses only a theoretical network at EHV in isolation and has given no consideration to lower voltages. An alternative approach would be needed for these voltages and it is not clear how a charging methodology could incorporate such a discontinuity in approach whilst maintaining cost-reflectivity and fairness between customer groups.

- **The appropriateness of the reference network** - There are a number of assumptions made throughout the *Bath Study* with no discussion of the impact or sensitivity that these might have on the final outcome. For example:

  - there appears to be a higher percentage of industrial load on the reference network than we would expect to see on either of our networks. The impact that this has is to exaggerate the reaction to any locational signals and therefore the benefits that arise from the LRIC and Investment Cost Related Pricing (ICRP) models compared to the DRM;

  - the model uses an average growth factor of 1.6%. In reality this will vary on different parts of the network and the higher the rate utilised, the more it will accelerate the replacement benefits derived from the modelling;

- **The customer behaviour** - This model is frankly implausible. It treats potential energy costs in isolation from any other factor that may influence decisions. If we have understood paragraph 60 of the *Bath Study* correctly, it assumes that EHV customers have an elasticity of -0.5. This seems very high indeed. No distinction seems to have been made between elasticities of EHV customers that have already incurred sunk costs in siting their premises and EHV customers that are contemplating where to locate their operations.

- **The scaling factor** – We have a number of concerns about the scaling factor:

  - the scaling assumption that recovers the non-marginal revenue in order to deliver the price control revenue target has a significant effect on price relativities and thus on the resultant customer behaviour. How this is applied is not described in detail and different scaling algorithms could produce widely differing investment results;

  - the paper states (at paragraph 114) that 'The scaling assumption that recovers the non-marginal revenue in order to deliver the price control revenue target has a significant effect on price relativities and thus customer behaviour': the models deemed to have the greatest impact (LRIC AC & DC) are those that inherently recover the smallest proportions of total allowed revenue (19% and 15% respectively, compared to around 40% for ICRP). It is possible therefore that it is the choice of scaling mechanism that has the greatest effect.

The authors of the *Bath Study* themselves apply significant caveats to their conclusion that £200m of avoided capital investment might be secured by the move towards a different pricing structure. We believe that there are additional reasons (summarised above) why such a figure is likely to exaggerate the benefits of such a move. Given the tentative nature of the conclusions of the study it was premature of Ofgem to include in its open letter the declaration:

> 'The study indicates that capital efficiencies may be gained from charging in a more economic manner. In the absence of alternative evidence this will inform future Ofgem assessments of whether DNO reinforcement capital expenditure is efficient.'

We are quite sure that on further consideration, you will wish to clarify that statement. Certainly, the significance of that statement needs to be reconciled with the *Final proposals*, published in November 2004. The *Final proposals* set out how capital investment undertaken in the DPCR4 period would be added to the regulatory asset value (RAV). It is unthinkable that on the basis of the *Bath Study* Ofgem would consider that it could strike out expenditure from the RAV. It is possible that you had in mind the assessment of DNOs' forecast capital investment over the DPCR5 period. Even so it is surely not Ofgem's position that the *Bath Study* represents an appropriate way to measure whether a DNO's reinforcement expenditure is efficient.

In summary, we believe the *Bath Study* has been useful in terms of aiding the understanding of the potential benefits that may arise from charging in a more economical manner. It is in this respect a useful contribution to an ongoing debate. However, the lack of transparency and the number of underlying assumptions lead us, and should lead Ofgem, to be very sceptical about the scale of the potential benefits.

We believe that Ofgem, in its wish to see an enduring charging methodology in which demand and generation regimes are aligned with models based on forward looking long run incremental costs, should not make any decisions based on this study without further understanding the sensitivities of the analysis. Consideration should also be given to other alternative approaches and the work been undertaken by the COG/ENA working group on the development of long-term charging arrangements.

We continue to support Ofgem's work in this area and are taking an active role in future developments.

Yours sincerely

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Director of Regulation