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Grant McEachran,
Head of Transmission Charging
Ofgem
9 Millbank
London SW1P 3GE

Direct tel: 01453 81 3631

Direct fax: 01453 81 2001

Your ref: 32/07

Our ref: dmw

By Email

Dear Grant

**Zonal transmission losses –
Assessment of proposals to modify the Balancing and Settlement Code
Impact assessment and consultation**

This brief letter is the response of Magnox Electric Ltd to the above consultation. Magnox Electric currently operates two nuclear power station (Oldbury and Wylfa) and one hydroelectric power station (Maentwrog) on behalf of the Nuclear Decommissioning Authority.

It is apparent to us that the introduction of any of the zonal losses schemes described in the paper would not affect the running regime of nuclear power stations or renewable generation. Certainly it will not affect the running of our stations, so we see the introduction of such a scheme as a “tax” on stations like ours, rather than a method to reduce losses. Hence we are not minded to support any of the losses schemes described in the paper.

In the short term, the only effect will be to make some small changes to the running of fossil fuelled plant operating near the margin. From the analysis presented, the effect of this on transmission losses is small, and the benefit uncertain. In the longer term, a zonal losses scheme might be expected to have some effect on siting decisions for new generation and new large industrial demands. However, the OXERA analysis indicates that the likely effect of this on losses is also small and uncertain.

There are two factors which do not seem to have been addressed properly in the Regulatory Impact Assessment. This is significant, bearing in mind the rather small reduction in transmission losses resulting from the zonal losses scheme which is predicted by the OXERA studies.

The first factor is the potential effect on losses from increased investment in the transmission system itself – using larger cross-section conductors, lower loss transformers, extra transmission circuits, revised scheduling of circuit outages etc. Such an approach to reducing losses would take many years to have a significant effect, but is it necessarily expensive?

Magnox Electric Ltd

Berkeley Centre, Berkeley, Gloucestershire GL13 9PB UK
Tel: +44 (0)1453 814000 Fax: +44 (0)1453 812529

Registered in England No. 2264251
Registered office:
1100 Daresbury Park, Daresbury,
Warrington, WA4 4GB
A BNFL Group Company

The second factor is that the losses in the distribution networks are much larger than the losses in the transmission system – nearly four times as much, according to the Digest of UK Energy Statistics (DUKES), published on the DTI website. Consequently, if a zonal losses scheme (for transmission losses) causes parties to take actions that may affect energy flows in distribution networks, then the effect on total system losses could be significantly different from the effect on transmission losses alone.

We have noticed a number of errors in the report, which we hope are just typographic, but they do slightly undermine our confidence in the accuracy of the conclusions. For example, in Appendix 3 table 2, the row labelled “CO2” seems to be g/GJ of Carbon, not of CO2. In Table 3, the row labelled “Assumed Conversion Efficiency” under NOx, seems to have numbers which are actually the emission factors from Table 2.

In tables 2 and 3, why are the CO2 figures taken from the 2000 version of DUKES, and not from the 2006 version? In these same tables the values for “Assumed Conversion Efficiency”, (Ofgem estimates) seem a little odd. It must have been assumed that the coal and oil stations are all running at part load and/or are frequently load following, as the efficiencies seem low (all the CEEGB-built 500MW and 660MW coal and oil stations had net thermal efficiencies approaching 38% when operated at steady full load). The same assumption does not seem to have been made for CCGT gas-fired stations (the figure used seems to be an average of the currently installed CCGT stations when operated as steady full load). This will affect any conclusions about how changes in generation patterns will affect CO2 emissions.

I hope my comments are helpful; they are not confidential.

Yours sincerely

David M Ward
Grid Interface Engineer
Operational Programmes
david.m.ward@magnox.co.uk
On behalf of Magnox Electric Ltd