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19 November 2003

Dear Nienke,

### **CEPA Report On Benchmarking**

This letter, together with the attached paper, gives EME's comments on CEPA's report and presentation on the benchmarking of DNOs. The letter describes our general views of benchmarking and the relevance of CEPA's findings to the forthcoming price control review. The attachment engages more directly with CEPA's analysis, addressing some of the specific and generally more technical issues that the report raises.

We welcome the report, believing it to be a valuable contribution to the ongoing debate about how best to assess DNOs' efficiency.

One thing we believe this report makes clear is that there is currently no single analytical method, which can unequivocally and robustly assess DNOs' efficiency.

CEPA have rejected a number of candidate methods, have recommended using at least two methods for this review, and even have misgivings about the ones they have proposed.

For our part, we have serious reservations about the ones they recommend. We describe more of our concerns in the attached paper, but the following points summarise our position:-

- Analysis of operating expenditure on its own (i.e. without consideration of capital expenditure) undermines any claims about relative positions on an "efficiency frontier".
- The underlying view of cost drivers is over-simplistic
- The data errors could equally support a hypothesis that the inefficient company is actually the efficient company

Despite these criticisms, however, we concur with CEPA that, while the chosen methods may not provide findings, which are "100% true" or statistically robust, they do provide *some* information, and such information may be a useful prompt for discussion between Ofgem and DNOs.

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So, whilst we do not believe the findings from the recommended analytical techniques can be used as a mechanistic basis for deciding on X factors, they may be a starting point for asking further and more detailed questions of each DNO. In this context, we welcome Ofgem's intention to place more weight on DNOs' bottom-up expenditure plans and the acknowledgement that pragmatism and judgement will be essential parts of the process.

Incidentally, insofar as X factors can be seen to originate in "frontier analysis", we believe that, as a matter of principle, the derivation of an X factor should be consistent with the derivation of the target rate of return. Thus, if DNOs' target rate of return is effectively a sector average, then DNOs' X factors to drive efficiency savings should be based on their positions relative to the sector average for efficiency.

An X factor based on better than average performance is effectively an increase in risk across the sector and should attract a higher rate of return.

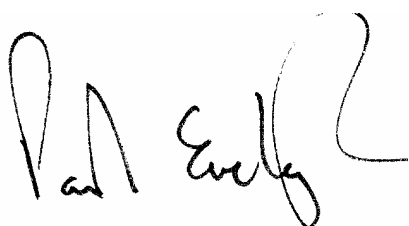
Returning to the CEPA study, we believe a method, which examines *total* costs over time, is a worthwhile development and welcome Ofgem's commissioning of CEPA to make an initial TFP study. The results may not be as robust as we would like in the short-term because of acknowledged difficulties in defining capital measures and the inherent lumpiness of capital. Given the cyclical nature of capital investment, with investments made in the 1950s and 1960s now "due" for renewal, real improvements in efficiency may well be overwhelmed by the significant increases in capex.

Notwithstanding this, we do believe that some insight into total cost is necessary, particularly given the significant range of capitalisation policies undertaken by DNOs.

We also accept, at least in principle, the idea of using international statistics. In practice, progress with this may be slow because of the differences and diversity of network operators outside the UK, definitional issues and the variability of regulatory drivers. However, we will reserve judgement until results are available.

Finally, we congratulate Ofgem on their ongoing commitment to transparency in this process, which will be particularly important if a frontier approach is used. Any frontier company must be open to rigorous scrutiny by those who are expected to emulate it, with sustainability and underlying network reliability becoming increasingly important and relevant issues. For our part, we would hope that any final decisions made by Ofgem on the basis of this analysis would be fully transparent and include the weightings attached to individual methodologies.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Paul Eveleigh". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Paul Eveleigh  
Commercial & Regulation Manager

**Summary – OPEX only, cost drivers, COLs, DEA**

We believe that the overall aim of benchmarking should be to explain total costs as a function of total outputs and other environmental factors. Achievement of this aim would enable Ofgem to establish whether some companies are more efficient than others and facilitate judgements on whether there is scope for the less efficient to improve their performance and reduce costs during the next price control period.

The analytical methods proposed by CEPA, a combination of “corrected least squares” (COLS) and data envelopment analysis (DEA), will fall short of this aim because they concentrate on operating expenditure (OPEX) only.

Benchmarking OPEX alone raises the following concerns in principle:-

- It cannot take account of the possibility of “regulatory gaming”, firms substituting CAPEX for OPEX.
- There may be different accounting treatment of certain cost items by different DNOs
- Some important effects may not be captured. For instance, a firm that looks inefficient on OPEX may be relatively efficient in terms of total expenditure performance, or vice versa.

CEPA recognise this and examine total expenditure (TOTEX), basing their assessment of capital costs on regulatory asset value and depreciation. Even though they acknowledge difficulties with the measure of TOTEX, their initial findings seem enough to us to suggest that assessing OPEX on its own is misleading. Indeed, CEPA effectively concur, with their comment on page 66:

*“Those firms that have displayed only limited improvements in opex performance despite being some way from the frontier have generally shown good improvements in TFP over the period. This suggests that examining opex efficiency alone may unfairly penalise some companies.”*

Given this potential for unfairness, we welcome Ofgem's commissioning of CEPA to undertake initial TFP analysis. Whilst we believe initial findings may not be particularly robust, because of acknowledged difficulties in defining and obtaining consistent capital measures, this is a development, which we believe is essential and will serve future reviews, perhaps more than this one. We await the results with interest.

**COLS and DEA**

In the meantime, we have reservations about how well COLS and DEA can explain OPEX as a function of total outputs and environmental factors, and so be used to identify an “efficiency frontier”.

Of course, much is dependent on the application of these methods, but we do think it worth pointing out that both methods are open to some fundamental challenges.

With COLS it is logically impossible to conclude that the gap between observed costs and any frontier benchmark must be due to differences in efficiency. Differences may be caused by factors other than inefficiency and measurement errors, for instance, missing explanatory variables or incorrect specification of the functional form.

With DEA, we are concerned about whether this is an appropriate method for such a small dataset. The investigation of international datasets may, of course, be useful here, but we are minded of academic work suggesting that DEA works best with hundreds of observations.

Moreover, we are also aware that this method works best with a small number of potential explanatory factors and we are not convinced that distribution costs can be sufficiently explained by a small number of variables.

Indeed, this is one of concerns about CEPA's analysis, that the underlying models over-simplify the cost drivers of distribution businesses.

Clearly getting a robust data set which is collected regularly is a post review priority. In its absence our concern is that these techniques because they fail to properly identify the errors have a simplistic tendency to stretch the data and create spurious efficiency differences. There will also be many equally plausible hypotheses to the ones that Ofgem may pursue and these alternate hypotheses will require rigorous analysis.

### **The Composite Variable**

We believe CEPA's recommended simplification of the composite variable is open to challenge. Although the fact that two cost drivers are correlated means that the addition of the second will do little to increase the explanatory power of the equation, it does not follow that a robust result can be obtained if it is omitted.

Customer numbers and GWh are indeed very highly correlated, but regression of costs against each of the variables individually produces different results for individual DNOs. The effect of substitution of GWh for customer numbers on computed cost levels for an individual DNO ranges from +4% to -8% and the rankings of DNOs change.

This suggests that the two variables are serving different purposes, and, at the very least, this requires some explanation.

### **Other Cost Drivers**

CEPA reject a number of other potential plausible cost drivers, and, again, we believe this is open to question.

The underlying data supporting the analysis has known weaknesses. This was mentioned at the CEPA presentation and we would be interested to see the results with more robust data.

More fundamentally, as was the case for the composite variable, the rejection of alternative cost drivers was based on a failure to provide *additional* explanation without considering whether they provide a reasonable *alternative* explanation.

In the example of GWh and customer numbers, regression using one of those variables to explain the efficiency scores yields no *additional* explanation. However, as demonstrated above, different results are obtained depending which is omitted. This effect needs to be taken account of for other potential cost drivers before they are rejected.

We are particularly concerned about the rejection of quality from the analysis. Customer minutes lost and number of interruptions are important outputs for DNOs. There are not only strong a priori grounds for expecting an impact on cost levels, but experience tells us there should be. We believe the method and grounds for rejecting a measure of quality must be subjected to fuller scrutiny.