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4th September 2003

Dear Gary

Electricity Distribution Losses: Initial Proposals

I write in response to your June paper setting out proposed changes to the incentive arrangements for DNO's in respect of losses. We have contributed previously to the debate on this subject through letters dated 8 November 2002, 24 February 2003 and 22 April 2003. I will not repeat the detail of our previous arguments here. This response will follow the structure of your proposals paper, but first it may be helpful to set out some initial thoughts.

1. Overview

In principle we support Ofgem's desire to improve the incentives on DNO's to ensure an optimal level of energy usage in the delivery of electricity through distribution networks. This suggests that the economic consequences for the company should mirror society's view of the costs and benefits. We agree that this is most appropriately achieved through an incentive mechanism focused on outcomes, and priced to reflect the value to society of changes in those outcomes.

However such a scheme will only be effective if its practical application is consistent with the policy intention and the impact is sufficiently predictable for DNO's. We foresee two sizeable problems with your proposals that must be addressed before we could have the confidence to support them. These relate to the setting of a future benchmark or target on the basis of historical data and the need to adequately reflect the likely pattern of future distributed generation output. We have suggested below some means to overcome these problems. Our continued interest in an input based approach is a consequence of our concerns. We agree that this is a 'second best' option, but remain to be convinced that a workable version of an outcome-based incentive can be devised and implemented by April 2005.

2. Estimating losses on distribution networks

It is clear that Ofgem have considerably enhanced the general understanding of the difficulties in reporting 'losses' over the course of their project. We agree that great steps have been taken to improve the quality of data, provided by suppliers and their agents, which contributes to their calculation of losses. This should mean that the future reporting of losses can be more reliable than in the past.

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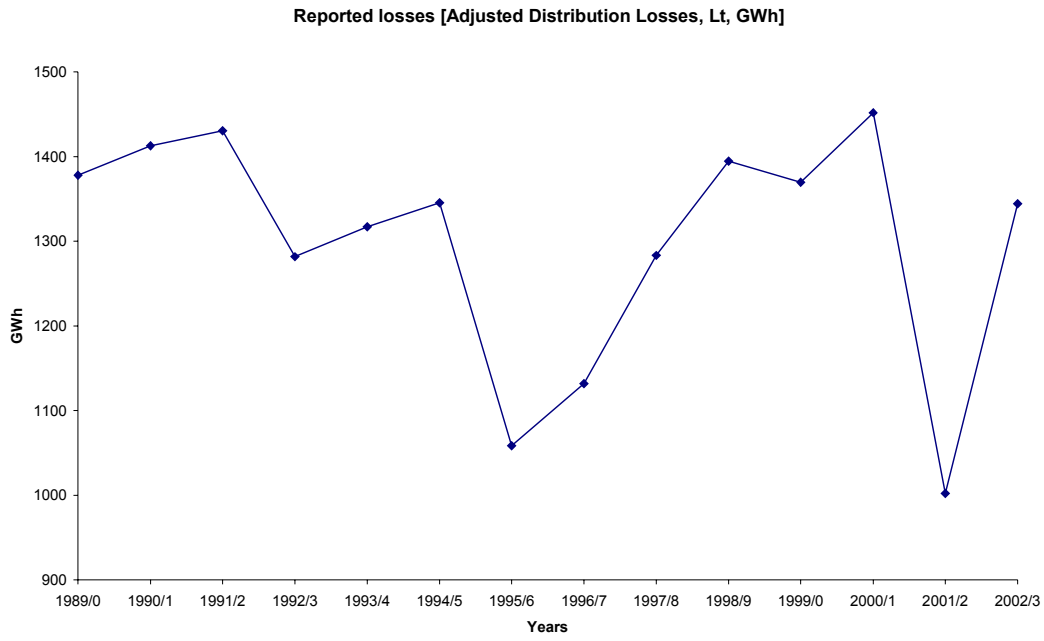
However it is not possible to entirely overcome the difficulties that arise from any methodology that depends upon the accuracy of metering data. We know, from our own experience, that reported losses can be significantly distorted by the failure of metering or data collection in respect of individual sites.

As well as the publicised difficulties arising from post – 1998 settlements, there have been other distortions in the timing of reported losses. In our case the pattern of losses in the mid – 1990's was severely affected by errors in the treatment of consumption at BNFL Springfield. These were discussed with Offer and an approach agreed which depressed the reported losses from 1995/6 to 1997/8, in order to compensate for exaggerated reported losses in the period prior to 1992/3. The history of our reported losses is shown on the graph below.



These historical anomalies become important if it is proposed to use a 10 year average to establish a suitable benchmark from which to project a baseline for any future incentive scheme. The table below shows how the 10 year average would vary depending on the exact spread of years chosen. In our view a better, though still not perfect option, would be to extend the period for average to cover the full 13 years since privatisation.

Summary of Average losses - ALt

10 years to 1998/9	10 years to 2001/2	10 years to 2002/3	13 years to 2002/3
1417 GWh	1453 GWh	1361 GWh	1425 GWh

You also suggest that in the future the embedded generation saved losses term (EGSL) should be ignored for the purposes of comparing losses with any benchmark. The intended effect is to encourage DNO's to use distributed generation to help reduce losses. This is a commendable objective, but it may not always realign with reality.

In our own case, as our recent letter on EGSL has demonstrated, the overwhelming majority of embedded generation is connected to our 132kV network in Cumbria. The effect is to make the typical powerflows in this network exports towards other load centres. The impact on losses is therefore negative and sizeable. Over the past 5 years the adjustment for embedded generation has been around 5-10% of the total losses on UU's entire network. (The significance of this has only just been made apparent following work triggered by your EGSL queries.) Variations in generator output can therefore swamp the impact of any specific investments we might make to try to improve the overall loss characteristics of our network.

Based upon the scenarios developed for our Distributed Generation BPQ we could expect an extra 400 MW of generation to be connected to our Cumbria network before 2010. We have modelled the likely impact on losses as an additional 65 GWh depending on the loading conditions. Any target based upon an historical benchmark would therefore be an unreasonable starting point against which to measure the success of other loss-related initiatives.

Finally in response to section 3 of your paper, we are pleased to note that you intend to review the effects of the current confusion over responsibilities for responding to illegal abstraction. It is disappointing that the proposed July discussion paper has still not been published.

3. Incentive design

Our view has always been that we should seek ways in which to enhance the existing output based approach to incentives. The development of an input-based alternative is expedient, as a fall back if it proves impossible to establish fair and robust means of incentivising on outputs.

We therefore support your suggestion that Option 1 is preferable to either Option 2 or Option 3. We understand your proposal to have two parts. The first is an acceptance that companies can include in their investment plans, for future price control periods, expenditure intended to improve losses performance. Such investment, subject to Ofgem's normal scrutiny in the price control process, could be allowed in the RAB within the price control calculations. The second part is to recognise the possibility of extra investment in a price control period that had not been forecast. In such cases, efficient investment would enter the RAB with a 5 year lag, but your calculations suggests that the 'incentive mechanism' would compensate for the loss of return and depreciation over the first five years.

We agree that such an approach would considerably improve on the current position. It would make it more likely that we would plan to use lower loss solutions in our network development and be prepared to invest beyond the levels in our business plan projections (subject to a satisfactory allowed cost of capital, and clarity on the efficiency test that would be applied).

However as described in the previous section, our concern in respect of option 1 arises from the difficulty in setting an appropriate target. These are good reasons to doubt that the past provides a suitable benchmark upon which to judge future performance. We would expect it to be possible (with the appropriate will on all sides) to remove the anomalous effects of past reporting. It will be less easy to set a target that reflects future network development.

For all companies there is likely to be an issue related to demand growth. To the extent that this is accommodated partly through higher levels of average network loading, the impact on losses will be adverse (since losses are proportional to the square of the load). This is part of the balance that companies must achieve between asset efficiency and losses. However, distributed generation is more difficult to deal with. The volumes and location of distributed generators are hard to predict, yet the impact on losses could vary substantially. Generation, such as CHP, located in load-rich areas will help to reduce overall losses while remotely located generation (such as many renewables) will often add to losses. In our case, as we explained above this could amount to a significant proportion of total current losses.

In our view the key to a successful incentive scheme is therefore the development of the target against which performance will be measured. Ideally this should be the level of losses that would result from the extension of the existing network, and current design standards, to accommodate future load (and generation) requirements. From such a baseline, company initiatives could be rewarded and any performance slippage could be penalised. In principle such targets could be derived from a reference network model but we have little confidence in such an approach being fully worked up by Ofgem in time for decisions to be made before the Forecast BPQ is submitted.

We therefore conclude that compromise is needed. This could involve an agreed mechanism for excluding the effects of distributed generation and of stabilising the historic reported losses to remove fluctuations in the data series. An alternative, which should not be dismissed until the viability of the above has been tested, would be to develop an input-based approach as an interim measure, while continuing to devote resources to a more appropriate long term solution.

4. Valuing the benefits of reducing losses

Here too we support in principle the approach that Ofgem propose. We agree that the value of losses applied in the incentive mechanism should reflect society's valuation. This should be based on expectations of future market prices, incorporating as necessary, an estimate of the additional environmental value not currently captured in market prices.

It is important that the incentive mechanism for DNOs is robust and reliable into the future. Companies must be able to predict with some confidence the rewards (and penalties) that are available. Investments can only be made on the basis of information available at the time and Ofgem needs to consider carefully whether DNOs should be exposed to the risk of wholesale price or environmental tax changes in the future. At least initially it may be preferable to fix the incentive rate for the five year period for which the target will have been fixed.

We would not advocate great complexity in the presentation of this value and initially suggest an annual average is used. Furthermore we would not recommend calculating different values for the various components of losses. This would invite further debate on the disaggregation of an already uncertain total.

5. Draft Regulatory Impact Assessment

It was interesting to see the draft regulatory impact assessment. In this case your view appears to be that customers can only gain from an incentive mechanism that more closely aligns the interests of shareholders and society. This is clearly the case. However it would be

helpful to see some quantification of the assessment of risks. In various places you observe that DNOs may face additional risk and uncertainty. We have described above some of the causes of those risks. The financial consequence would depend on the valuation of losses in any incentive scheme, and would need to be reflected in the allowed cost of capital.

It would also be worthwhile exploring the certainty of some of your statements. For example para 1.25 of Appendix 1 includes 'efficient' three times in one sentence. However it is not evident that Option 1 must lead to this outcome. It is dependent on the incentive scheme being appropriately designed within the parameters used to describe Option 1.

Finally you suggest (1.42) that the valuation risks are the same under each option. This does not seem likely, since the actual reward mechanism could be markedly different both between the output schemes (Options 1, 2 and 3) and the input schemes (Options 4 and 5).

6. Conclusions

In conclusion, we would repeat our support, in principle, for an enhanced output based approach to incentivise loss management. However we are concerned that your proposals have concentrated on fixing the problems of the recent past, and have not therefore addressed the issues for the future. In our minds, the key question is how the impact of growing levels of distributed generation will be addressed.

Now seems the wrong time to take away the embedded generation losses adjustment. Any future target must reflect what is practical, and should be based on a continuation of current practice. This would offer the prospect of rewards for companies that take positive steps to improve losses. If an output based approach cannot be developed, we see merit in a short-term input based scheme that would at least boost investment in known technologies. It is essential that we have clarity of the approach to be adopted before we submit investment plans in the Forecast BPQ.

I hope you find these comments helpful. I would be pleased to discuss our ideas with you further.

Yours sincerely

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Mike Boxall
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