

Robert Hull  
Director of Transmission  
Ofgem  
9 Millbank  
London  
SW1P 3GE



31<sup>st</sup> July 2007

Dear Robert,

Thank you for the opportunity to comment on the questions put forward in Ofgem's minded-to decision document on the various outstanding BSC Modifications that relate to the allocation of transmission losses.

We continue to strongly oppose all Modifications that seek to allocate transmission losses on a zonal basis, and in particular believe that:

1. The CBA did not prove that a zonal loss scheme will reduce losses and promote efficiency; and
2. There is no certainty that a zonal loss scheme will reduce CO2 emissions and benefit the environment; and
3. It will have a material adverse impact on renewable generation

We have provided more detailed comments on your specific questions below. If you have any queries then please do not hesitate to contact me on 020 7752 2567.

Yours sincerely,

Dr Sebastian Eyre  
Head of Energy Regulation

## Chapter Two

### **Question 1: Do respondents consider that we have appropriately summarised the key themes of the responses to Ofgem's impact assessment on zonal losses?**

The summary is generally appropriate but omits the important response point that Oxera's analysis actually shows an increase in losses in some of the later years compared to the current baseline, should zonal transmission losses be introduced as per P203.

### **Question 2: Are there any other themes which respondents considered should have been highlighted?**

Please see our answer to question one above

## Chapter Three

### **Question 1: Do respondents consider that the additional analysis we have provided addresses the concerns expressed by respondents to the impact assessment regarding analytical gaps in the impact assessment?**

No. The additional analysis and commentary does not address or deal with concerns that CO<sub>2</sub> emissions may be increased as a result of zonal loss charging. This is because Humber, Saltend, Teeside, Deeside and Keadby CCGTs are all in more northerly locations than Uskmouth, Tilbury, Kingsnorth, Aberthaw, Didcot, Fawley, Grain and Littlebrook coal and oil units. Oxera's analysis was, as our response to the Regulatory Impact Assessment (RIA) pointed out, heavily dependent on losses being reduced when Southern CCGTs replaced one or more Northern coal units. This analysis is not robust as it is highly likely that price conditions and forecast Transmission Loss Factors (TLFs) could encourage Southern coal units to displace Northern CCGTs.

Ofgem has not assuaged our concerns over the inaccuracy of using forecast seasonal TLFs that provide a signal to generators based on the seasonal average power flows of the previous year; the electrical configuration of the network can change significantly year on year with the result that generators could be responding to a signal which bears no relationship to the physical network at that time. An associated concern that is also overlooked in the additional analysis is that ex-ante, seasonal average TLFs will not provide the correct signal for an immediate reduction in losses.

It must also be stated the forecast TLFs are based on GSP Groups, (which have no relevance to HV transmission losses), used purely to ensure there are no perverse incentives on pumping and embedded generation. These unjustified and inappropriate zones only represent a progressively more local, rather than national, inaccurate allocation of transmission losses.

Another concern not addressed in the additional analysis is that renewable generation will be adversely affected, and therefore indirectly discriminated against, as a class. Ofgem has assumed (as it shows in Table 4) that the inclusive project cost of new (Northern) onshore wind is below the price of ROCs alone – it states an

assumption, citing a supporting reference dated 2003, that the inclusive project cost of onshore (Northern) wind is only slightly above £20/MWh (£22.69/MWh). It states a further assumption, citing the same 2003 reference, that the cost of offshore wind is only a little above £30/MWh (£31.52/MWh). Ofgem correctly points out via Table 4 that these figures are below the value of ROCs alone, and therefore effectively states that such projects would be so supra-normally profitable (profitable, moreover, based on either the wholesale price, or on ROCs, alone) that the impact of losses would not make any difference to their economic viability.

Were these project cost data (including developer's risk premium and landowner's royalty) accurate, then Ofgem would be correct. However, we believe the cost at which these types of projects are available is in fact much higher than the figures quoted by Ofgem. We would like to refer Ofgem to a more recent study on the cost of renewables technologies that was carried out by Ernst & Young on behalf of the Department of Trade and Industry in April 2007<sup>1</sup>. The following table is an extract from this report<sup>2</sup> highlighting the medium levelised costs of various wind technologies of different sizes and wind speeds:

Cost of Generation [£/MWh]	2006	2010	2015	2020
Onshore – Large – High Wind	62	65	62	61
Onshore – Small – High Wind	72	75	72	70
Onshore – Large – Low Wind	74	77	74	72
Onshore – Small – Low Wind	86	89	86	83
Offshore	91	92	86	83

Even taking the lower range of the 2006 figures, both onshore and offshore wind technologies are valued at almost three times the cost of the figures quoted by Ofgem in table 4 of its 'minded-to' document.

It is therefore not possible to take these numbers seriously, and their inclusion within the "minded-to" document, as evidence of having addressed the concerns regarding indirect discrimination against renewables as a class, represents a serious weakness.

#### **Question 2: Do respondents consider that there are any remaining aspects on the Modification Proposals that require to be addressed analytically?**

The question of indirect discrimination against renewables as a class requires proper analysis with current and credible renewable project price data.

The question of the effect on CO2 emissions needs correct analysis given the locational balance of the most affected plant and their fuels, as outlined above. Consideration should also be given to some plant which will run at its present level regardless of zonal losses because of known long-term contract positions. Ofgem recognise this with their comment about the need to take account of wider factors, but do not apply the point in their analysis.

## **Chapter Four**

<sup>1</sup> Department of Trade and Industry *"Impact of Banding the Renewables Obligation – Costs of electricity production"* (April 2007) [<http://www.berr.gov.uk/files/file39038.pdf>]

<sup>2</sup> *Ibid*, p.3

**Question 1: Do respondents consider that the Modification Proposals have been appropriately assessed against the applicable BSC Objectives?**

Ofgem appears to disregard Oxera's analysis which shows an increase in total transmission losses were P203 to be passed, in some of the later years – i.e. a negative cost-benefit case in those years, as the balance of plant changes so that some of the Northern plant is assumed to have closed.

**Question 2: Do respondents consider that there are any aspects of the Modification Proposals that have not been adequately assessed in relation to the applicable BSC objectives?**

In relation to Objective B, the negative cost-benefit case in later years is completely ignored. In Section 4.20 Ofgem states that “benefits would reduce over time to average savings per annum (for the period from 2006 – 2015) of around £9 million for P203, £5 million for P204 and £3 million for P198”. This is factually wrong given that the Cost-Benefit Analysis issued to the P203 and P204 working groups (but not to industry) showed a net increase in losses in some of the later years. This is clearly highlighted in Figure One of our response to the RIA<sup>3</sup>.

The interaction with TNUoS charging is only considered in a one-dimensional way (do zonal TLMs align with TNUoS charges?). New connections policy for some time has been based on shallow charging, so that generators do not have to pay directly for the grid works necessary to connect them, but pay Use of System charges once connected, which are shared 27:73 between generators and demand. Here, cost-reflectivity would be relatively simple to achieve, would give a very powerful locational signal to new connectees, and would not require complex half-hourly attributions (rather, it would need a simple one-off charge) yet the principle of cost-reflectivity has not been pursued by Ofgem. In the BSC arena, the implementation of zonal charging for transmission losses would add considerably to real and perceived complexity of the trading arrangements and to the risks present and analysis required to invest in our sector, yet to relatively little ultimate commercial effect.

Ofgem are also clearly confused by their arguments in relation to Objective D – Implementation costs are a competition issue (as these costs are up front and charged to all BSC parties on a one off basis), and thus should fall under arguments relating to Objective C. The high implementation costs of P203 could increase barriers to entry by increasing costs in the short term, which would be detrimental to Objective C.

---

<sup>3</sup> In the RIA Ofgem presented only the annual average loss savings to 2015/16 for P198, P293 and P204 in Table 2.3c. For P203 this figure was £8.9m. This gives the false impression that under the CBA losses were reduced in each year – this was not the case. Ofgem chose not to present data issued by Elexon on 23<sup>rd</sup> August 2006 to the P204 working group. This data included a Memorandum (dated 22<sup>nd</sup> August 2006) listing “*Comparison of P198 and P204 CBA results*” as document 3. Figure 2 on this document showed both P198 and P204 (Central-annual) increasing losses in 2014/15 and 2015/16. A supplementary figure was provided by Elexon to the working group which presented P203 (as P198 Seasonal) increasing losses in 2015/16. P204 Seasonal showed negligible loss savings in 2015/16.

## Chapter Five

### **Question 1: Do respondents consider that the Authority has appropriately assessed the Modification Proposals against the applicable BSC Objectives when considered collectively?**

The assumption made that phasing-in would be wrong seems rather dogmatic and tends to “beg the question” as to whether the large re-distributional impact of zonal losses is not too negative, set against other considerations, for the scheme to be implemented. Phasing-in over a small number of years, as was planned by Offer in a previous (approved, but later abandoned) scheme under the Electricity Pool, would have at least reduced the rate at which locational basis risk was introduced, and avoided market-shock.

## Chapter Six

### **Question 1: Do respondents consider that the Authority has appropriately assessed the Modification Proposals against its duties?**

Paragraph 6.17 states that zonal charging for transmission losses would avoid the construction of extensions to/spurs from the existing Grid. This shows a considerable misunderstanding on Ofgem’s part. Zonal charging for transmission losses would be identical across an entire GSP group, and would be exactly the same for a new generator constructed physically adjacent to a suitable transformer, as it would for a new generator constructed where an elongated and costly new Grid spur would be required. It is connection charging that influences whether or not new spurs are built – currently it encourages them, in our view inefficiently, as new connections charging policy for some time has been based on shallow charging, so that generators do not have to pay directly for the grid works necessary to connect them.

Ofgem states that zonal transmission loss factors may reduce the size of the grid and yet it considers that it would have no impact on the connection of renewables. This cannot be true, as if numerous dispersed clusters of renewable generators connect in isolated and disparate parts of the country, the transmission grid will need to be extended to create spurs out to them (and to transmit their electricity to demand centres further south).

### **Question 2: Do respondents consider that there are any aspects on the Modification Proposals that have not been adequately assessed in relation to the Authority's duties?**

The impact on renewables, in particular the numbers that were used by Ofgem in chapter 3 for the costs of new onshore and offshore Northern wind were quite wrong. It is also stated that the DTI’s social value of carbon has been used and that there is an expectation that market prices for carbon may exceed them. On the contrary, these governmental values of carbon are generally far too high compared to what obtains in the market; no market value of carbon has yet come close to them.

## Chapter Seven

### Question 1: Do respondents have any comments on any of the issues set out in this chapter?

In the table below we have explored Ofgem's reasoning behind its conclusion not to reject all of the Modification Proposals, and compared it with deep transmission charging for new generators. It is evident that many of the arguments are equally relevant to deep transmission charges, yet Ofgem supports shallow transmission charges. We believe this is inconsistent behaviour for a regulator. The implementation of P203 would leave us with "deep" loss charging and "shallow" transmission charging.

Section 7.20	Ofgem's arguments for zonal losses	Arguments for Deep Tx charges
Efficiency	<i>"Locational impacts of generators' and suppliers' actions are not currently reflected in the charges they pay for losses. As a result, parties are not making the most efficient decisions about their use of the system"</i>	The same is true, substitute "losses" for "connection"
Discrimination	<i>"If parties are not facing charges which accurately reflect the costs they impose, then the argument could be made that the existing arrangements result in discriminatory outcomes"</i>	The same is true, if a generator does not have to pay directly for the works to connect them, but charges are shared with other Users instead (who cannot influence the location of that generator) then the other User(s) are being discriminated against
Competition	<i>"If transmission users are not paying charges that reflect their impact on the transmission network the relative cost position will be skewed, thereby inhibiting effective competition"</i>	The same is true, if costs of local connection and Tx reinforcement are shared then competition is skewed to those where Tx costs are a greater proportion of capital cost
Environment	<i>"Less efficient decision-making is likely to lead to higher losses, higher carbon emissions and less efficient future development of the network"</i>	Reflecting the cost of connecting new generation in deep Tx charges would have a far greater impact on losses, thus benefiting the environment, by reducing CO2 emissions and the need to build Tx infrastructure
Consumers	<i>"The interests of consumers are best facilitated by cost-reflective charging arrangements that promote the efficient and lowest cost development of the transmission system and by effective competition between generators and suppliers which drives down prices. For example, under the existing arrangements the fact that Scottish consumers are in close proximity to generation stations is not reflected in the charges they pay for losses"</i>	For example the cost of connecting generation is not reflected in what are shared UoS charges. Under some initial proposals for Offshore charging, where the cost may be shared, the charges will not reflect the impact the generator has on the system.
Costs	<i>"The implementation costs of the modification proposals are not large and are significantly lower than the estimated benefits of those proposals"</i>	The cost of changing the Tx charging approach would be minimal compared to the system changes for seasonal GSP group loss factors.

## Chapter Eight

**Question 1: Do respondents wish to raise any specific issues regarding the Authority's minded to position?**

None beyond those specified herein in relation to the other questions.

**Question 2: Do respondents have any views on both the process and timetable that are proposed for the Authority making its final decisions on the Modification Proposals and for publishing those decisions?**

EDF Energy has always stated that the implementation timescales should factor in time for an appeal. If the decision is appealed, we will not know for certain whether any zonal losses will be implemented in October 2008, until possibly as late as December 2007. We will have lost 2-3 months of valuable time to implement such a complex modification to the BSC.