

Draft MODIFICATION REPORT for Modification Proposal P203 'Introduction of a Seasonal Zonal Transmission Losses Scheme'

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Date of Issue:	18 August 2006	Document Reference:	P203RR
Reason for Issue:	For consultation	Version Number:	0.2

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Proposed Modification P203 seeks to allocate the 'variable' (heating) element of transmission losses to BSC Parties on a 'zonal' basis, according to the extent to which each Party is estimated to give rise to them. The solution for P203 involves the calculation of four Adjusted Seasonal Zonal Transmission Loss Factor (TLF) values per TLF Zone for each BSC Year – one for each BSC Season. TLF Zones would be based on Grid Supply Point Groups, and the seasonal TLFs would be calculated on an annual ex-ante (forecast) basis for each forthcoming BSC Year (1 April – 31 March). All BM Units within a Zone would receive the Adjusted Seasonal Zonal TLF value for that Zone in every Settlement Period of the relevant BSC Season.

Proposed Modification P203 is similar to Alternative Modification P198, with the key difference that under P203 (unlike P198 Alternative) there would be no phased implementation of seasonal TLF values.

No Alternative Modification was developed for P203.

BSC PANEL'S RECOMMENDATIONS

Having considered and taken into due account the contents of the P203 draft Modification Report, the BSC Panel recommends:

- **that Proposed Modification P203 should not be made;**
- **an Implementation Date for Proposed Modification P203 of 1 April 2008 if an Authority decision is received on or before 22 March 2007, or 1 October 2008 if the Authority decision is received after 22 March 2007 but on or before 20 September 2007; and**
- **the proposed text for modifying the Code, as set out in the Modification Report.**

¹ ELEXON Ltd fulfils the role of the Balancing and Settlement Code Company ('BSCCo').

² The current version of the Code can be found at <http://www.elexon.co.uk/bscrelateddocs/BSC/default.aspx>

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SUMMARY OF IMPACTED PARTIES AND DOCUMENTS

As far as the Modification Group has been able to assess, the following parties/documents would be impacted by P203.

Please note that this table represents a summary of the full impact assessment results contained in Appendix 3 of the P203 Assessment Report. A copy of the P203 Assessment Report is attached as Appendix 3 to this Modification Report.

Parties	Sections of the BSC	Code Subsidiary Documents
Distribution System Operators <input type="checkbox"/>	A <input type="checkbox"/>	BSC Procedures <input checked="" type="checkbox"/>
Generators <input checked="" type="checkbox"/>	B <input type="checkbox"/>	Codes of Practice <input type="checkbox"/>
Interconnectors <input checked="" type="checkbox"/>	C <input type="checkbox"/>	BSC Service Descriptions <input checked="" type="checkbox"/>
Licence Exemptable Generators <input checked="" type="checkbox"/>	D <input type="checkbox"/>	Party Service Lines <input type="checkbox"/>
Non-Physical Traders <input type="checkbox"/>	E <input checked="" type="checkbox"/>	Data Catalogues <input type="checkbox"/>
Suppliers <input checked="" type="checkbox"/>	F <input type="checkbox"/>	Communication Requirements Documents <input checked="" type="checkbox"/>
Transmission Company <input checked="" type="checkbox"/>	G <input type="checkbox"/>	Reporting Catalogue <input checked="" type="checkbox"/>
Party Agents	H <input checked="" type="checkbox"/>	Load Flow Model Specification* <input checked="" type="checkbox"/>
Data Aggregators <input type="checkbox"/>	I <input type="checkbox"/>	Core Industry Documents
Data Collectors <input type="checkbox"/>	J <input type="checkbox"/>	Ancillary Services Agreement <input type="checkbox"/>
Meter Administrators <input type="checkbox"/>	K <input type="checkbox"/>	British Grid Systems Agreement <input type="checkbox"/>
Meter Operator Agents <input type="checkbox"/>	L <input type="checkbox"/>	Data Transfer Services Agreement <input type="checkbox"/>
ECVNA <input type="checkbox"/>	M <input type="checkbox"/>	Distribution Codes <input type="checkbox"/>
MVRNA <input type="checkbox"/>	N <input type="checkbox"/>	Distribution Connection Agreements <input type="checkbox"/>
BSC Agents	O <input type="checkbox"/>	Distribution Use of System Agreements <input type="checkbox"/>
SAA <input checked="" type="checkbox"/>	P <input type="checkbox"/>	Grid Code <input type="checkbox"/>
FAA <input type="checkbox"/>	Q <input type="checkbox"/>	Master Registration Agreement <input type="checkbox"/>
BMRA <input checked="" type="checkbox"/>	R <input type="checkbox"/>	Supplemental Agreements <input type="checkbox"/>
ECVAA <input type="checkbox"/>	S <input type="checkbox"/>	Use of Interconnector Agreement <input type="checkbox"/>
CDCA <input checked="" type="checkbox"/>	T <input checked="" type="checkbox"/>	BSCCo
TAA <input type="checkbox"/>	U <input type="checkbox"/>	Internal Working Procedures <input checked="" type="checkbox"/>
CRA <input checked="" type="checkbox"/>	V <input checked="" type="checkbox"/>	BSC Panel/Panel Committees
SVAA <input type="checkbox"/>	W <input type="checkbox"/>	Working Practices <input checked="" type="checkbox"/>
Teleswitch Agent <input type="checkbox"/>	X <input checked="" type="checkbox"/>	Other
BSC Auditor <input checked="" type="checkbox"/>		Market Index Data Provider <input type="checkbox"/>
Profile Administrator <input type="checkbox"/>		Market Index Definition Statement <input type="checkbox"/>
Certification Agent <input type="checkbox"/>		System Operator-Transmission Owner Code <input type="checkbox"/>
Transmission Loss Factor Agent* <input checked="" type="checkbox"/>		Transmission Licence <input type="checkbox"/>
Other Agents		Network Mapping Statement* <input checked="" type="checkbox"/>
Supplier Meter Registration Agent <input type="checkbox"/>		Load Flow Model Reviewer* <input checked="" type="checkbox"/>
Data Transfer Service Provider <input type="checkbox"/>		

*New document/role introduced by P203

1 BACKGROUND

1.1 Types of Transmission Losses

Transmission losses can be considered to comprise two main elements:

- 'Fixed' losses are those which do not vary significantly with the power flow. In transformers, the losses arise from magnetising the iron core. In overhead lines, they include losses dependent on the voltage levels, length of line and climatic conditions.
- 'Variable' losses arise through the heat caused by current flowing through the transformers and lines. Variable losses increase with the current (and associated power flow) and the length of line in which it flows.

References to 'total' transmission losses throughout this document are used to represent the sum of fixed and variable losses (i.e. the total energy lost from the Transmission System at any given point in time).

1.2 Existing Allocation Mechanism for Transmission Losses

Transmission losses are allocated to BSC Parties ('Parties') as part of their Trading Charges, by adjusting individual BM Unit Metered Volumes in Settlement through a Transmission Loss Multiplier (TLM). The rules and calculations for allocating transmission losses to Parties are set out in Section T2 of the Balancing and Settlement Code ('the Code').

Under the existing Code provisions, both fixed and variable transmission losses in each Settlement Period are allocated to Parties on a 'uniform' (non-locational) basis in proportion to each Party's metered energy. The current allocation of transmission losses therefore does not take account of the extent to which individual Parties give rise to such losses. Although a parameter for a 'differential' allocation of some or all transmission losses is included in the Code (the Transmission Loss Factor or TLF), this is currently set to zero so has no practical effect. The value of TLF can only be amended through a modification to the Code.

Further detail regarding the existing arrangements can be found in Section 2 of the P198 Assessment Report (Reference 1).

1.3 Related Modification Proposals

There are currently three other Pending Modification Proposals being progressed in the area of zonal transmission losses, as follows:

- Modification Proposal P198 'Introduction of a Zonal Transmission Losses Scheme' (raised by RWE Npower on 16 December 2005);
- Modification Proposal P200 'Introduction of a Zonal Transmission Losses Scheme with Transitional Scheme' (raised by Teesside Power Limited on 21 April 2006); and
- Modification Proposal P204 'Scaled Zonal Transmission Losses' (raised by British Energy Power & Energy Trading Ltd on 3 July 2006).

All of the proposals seek to introduce a locational allocation of variable losses through the calculation of 'zonal' TLF values, although their precise calculations and application of these values differ. A summary table showing the high-level solutions for these Modification Proposals (and any Alternative Modifications where applicable) is provided on the following page, whilst further detail regarding each proposal can be found in Section 2 of the P203 Assessment Report in Appendix 3. The Modification Reports for P198 (attached as Appendix 4 to this report) and P200 (Reference 2) are scheduled to be presented to the BSC Panel ('the Panel') and the Authority in parallel with P203. P204 is currently within the Assessment Procedure, with an Assessment Report to be presented to the Panel at its meeting on 12 October 2006.

Please note that P198, P200, P203 and P204 (and their Alternative Modifications where applicable) are mutually exclusive, such that only one could be approved by the Authority for implementation.

Due to the similarity between P203 and Alternative Modification P198, it is advisable to read the P198 Modification Report prior to that for P203. A copy of the P198 Modification Report is attached as Appendix 4.

Table 1 – Summary of Pending Transmission Losses Modification Proposals

Aspect of Solution	P198 Proposed	P198 Alternative	P200 Proposed	P200 Alternative	P203 Proposed	P204 Proposed
Scope of Zonal TLF Calculation	Scaled Marginal (Variable Losses Only)	Scaled Marginal (Variable Losses Only)	Scaled Marginal (Variable Losses Only)	Scaled Marginal (Variable Losses Only)	Scaled Marginal (Variable Losses Only)	Scaled Marginal (Variable Losses Only)
Scaling Factor	0.5	0.5	0.5	0.5	0.5	TBC - to ensure no energy credits
Applicable Period for TLFs	BSC Year	BSC Season	BSC Year	BSC Season	BSC Season	TBC
Nature of TLF Calculation	Ex-Ante	Ex-Ante	Ex-Ante	Ex-Ante	Ex-Ante	Ex-Ante
Frequency of TLF Calculation	Annual	Annual	Annual	Annual	Annual	Annual
Applicable Zones for Production BM Units	GSP Group	GSP Group	GSP Group	GSP Group	GSP Group	GSP Group
Applicable Zones for Consumption BM Units	GSP Group	GSP Group	GSP Group	GSP Group	GSP Group	GSP Group
Mitigation of Impacts?	No	Yes	Yes	Yes	No	No
Type of Mitigation	-	Linear Phasing	Hedging	Hedging	-	-
Period of Mitigation	-	4 Years	15 Years	15 Years	-	-

2 DESCRIPTION OF MODIFICATION

This section outlines the solution for the Proposed Modification as developed by the P203 Modification Group ('the Group') during the Assessment Procedure. No Alternative Modification was developed by the Group. For a full description of the original Modification Proposal as submitted by RWE Npower ('the Proposer'), please refer to the P203 Initial Written Assessment (IWA). Further background to the proposal can be found in Section 2 of the P203 Assessment Report in Appendix 3.

The solution agreed by the Group for Proposed Modification P203 is based on that developed by the P198 Modification Group for Alternative Modification P198, with the exception that it would not contain the phasing element of P198 Alternative. P203 would allocate the variable element of transmission losses to Parties on a 'zonal' locational basis through the TLF, according to the extent to which each Party is estimated to give rise to variable losses. It involves the following 'scaled marginal' methodology for calculating locational TLFs:

- 1) An electrical model of the Transmission System (a 'Load Flow Model') would be built, containing 'Nodes' to represent points where energy flows on or off the Transmission System or where two or more circuits on the network meet. Each Node on the Transmission System would be identified by the Transmission Company, and would be allocated to a specific Zone on the transmission network on the basis of a 'Network Mapping Statement' maintained by BSCCo. The TLF Zones would be set by the Panel, based on the geographic areas covered by Grid Supply Point (GSP) Groups. Since there are currently 14 GSP Groups, there would therefore be 14 TLF Zones.
- 2) TLFs would be calculated on an ex-ante basis (i.e. forecasted) for each BSC Year, using Metered Volumes and Network Data for Sample Settlement Periods from a preceding 12-month period (the 'Reference Year'). The required Metered Volumes and Network Data would be provided by the Central Data Collection Agent and the Transmission Company respectively.
- 3) Prior to the start of each BSC Year (1 April – 31 March), the Load Flow Model would be run by a Transmission Loss Factor Agent ('the TLFA') to calculate how an incremental (or 'marginal') increase (or 'injection') in power at each individual Node would affect the total losses from the Transmission System. The output of the Load Flow Model would be a TLF value for each Node in each of the Sample Settlement Periods. Positive TLF values would be produced for Nodes where an incremental increase in generation (or reduction in demand) had the effect of decreasing total transmission losses. Negative TLF values would be produced for Nodes where an incremental increase in generation (or reduction in demand) had the effect of increasing total transmission losses. For example, if an injection of an extra unit of energy at a Node increased total losses by 0.02%, the TLF for that Node in that Settlement Period would be -0.02.
- 4) The TLFA would average these raw Nodal TLFs across all the Nodes in each TLF Zone by 'volume-weighted' averaging, to give 14 Zonal TLF values for each Sample Settlement Period (one per TLF Zone). The TLFA would then use 'time-weighted' averaging to convert these to Seasonal Zonal TLFs for each Zone in each BSC Season.³

³ The BSC Seasons are already defined in Section K of the Code and are: BSC Spring (1 March – 31 May inclusive), BSC Summer (1 June – 31 August inclusive), BSC Autumn (1 September – 30 November inclusive) and BSC Winter (1 December – 28/29 February inclusive).

- 5) The TLFA would adjust the Seasonal Zonal TLFs by a scaling factor of 0.5, such that the volume of energy allocated via the TLFs was comparable to the volume of variable losses calculated by the Load Flow Model.⁴ These Adjusted Seasonal Zonal TLFs (four seasonal values for each of the 14 TLF Zones) would be made publicly available by BSCCo no less than three months prior to their use in the TLM Settlement calculation for the applicable BSC Year.
- 6) Each BM Unit would be allocated to a specific TLF Zone by BSCCo on the basis of the Network Mapping Statement, with any question or dispute over their zonal allocation to be resolved by the Panel. Using the Network Mapping Statement, the TLFA would determine the TLF value to be applied to each BM Unit in the TLM Settlement calculation for each BSC Season in the applicable BSC Year. The BM Unit-Specific TLF applied to a BM Unit in a particular Settlement Period would be the Adjusted Seasonal Zonal TLF value for the relevant BSC Season which was applicable to the Zone in which the BM Unit was located. All BM Units within a Zone would therefore receive the same single TLF value (the Adjusted Seasonal Zonal TLF for that Zone), for every Settlement Period within the applicable BSC Season. A positive TLF value would increase the value of TLM used to scale a BM Unit's Metered Volume (a benefit to generators and disadvantage to Suppliers), whilst a negative TLF value would decrease the value of TLM (a benefit to Suppliers and disadvantage to generators).
- 7) The BM Unit-Specific TLFs calculated by the TLFA would be registered in BSC Systems by the Central Registration Agent, and would be used by the Balancing Mechanism Reporting Agent and the Settlement Administration Agent within the Balancing Mechanism Reporting Service and Settlement calculations respectively.
- 8) The remaining 'fixed' element of transmission losses would continue to be allocated to Parties on a non-locational basis as currently, and the existing overall 45:55 allocation of total transmission losses to generation and demand would be retained.
- 9) Under Proposed Modification P203, there would be no phased implementation or 'hedging' of exposure to the new zonal TLFs, which would therefore take full effect from the first Settlement Period on the Implementation Date.
- 10) Since the BSC Spring season (1 March – 31 May) spans the beginning of a new BSC Year on 1 April, the new set of TLFs for each year would come into effect part-way through this season. This would result in a changeover from the BSC Spring seasonal TLF value applied to a BM Unit in the last Settlement Period on 31 March to a new value for that season which was effective from the first Settlement Period on 1 April.

Further detail regarding the solution for the Proposed Modification can be found in Section 4 of the P203 Assessment Report in Appendix 3.

3 AREAS RAISED BY THE TERMS OF REFERENCE

The following areas were considered by the Modification Group during the Assessment Procedure for P203:

- The interaction of the P203 solution and legal text with Alternative Modification P198;
- The applicability of the results of the P198 external TLF modelling exercise conducted by Siemens PTI to P203;
- The applicability of the results of the P198 external cost-benefit analysis conducted by OXERA Consulting to P203;
- Potential options for an Alternative Modification;

⁴ Such scaling is necessary due to the square load relationship of heating losses to power (i.e. they increase in proportion to the square of the current). Without the scaling, the zonal TLFs would recover more than the actual level of variable losses calculated by the Load Flow Model. Further information can be found in Section 4.4 of the P198 Assessment Report.

- The responses received to the Assessment Procedure industry consultation; and
- The responses received to an additional industry consultation regarding the correction of a data error in the OXERA cost-benefit analysis.

These issues are discussed in the P203 Assessment Report contained in Appendix 3, and are not covered further here.

4 IMPLEMENTATION APPROACH AND COSTS

During the P198 Assessment Procedure, separate impact assessments had been sought from BSC Agents, Parties, BSCCo and the Transmission Company of the two elements of Alternative Modification P198 (seasonal TLFs and linear phasing). Respondents to this impact assessment indicated that the costs and lead times involved in implementing only the seasonal element of the Alternative would be the same as implementing both the seasonal and phasing elements. Copies of the responses received can be found in Appendix 3 of the P198 Assessment Report.

Since (with the exception of the removal of the phasing element) the calculation of Adjusted Seasonal Zonal TLFs under Proposed Modification P203 would be the same as for Alternative Modification P198, no additional impact assessment was required for P203.

The costs of Proposed Modification P203 are therefore identical to those for Alternative Modification P198. The implementation costs of P203/P198 Alternative are approximately £10,000 higher than for Proposed Modification P198 with marginally lower operational costs, due to the Group's choice of a scripted approach to loading multiple TLF values into BSC Systems. A summary of these costs is provided on the following page. The same twelve-month lead time would also be required for Proposed Modification P203 as for Alternative Modification P198. A more detailed explanation of these costs and timescales can be found in Section 4 of the P198 Modification Report and in Sections 4.5 and 4.9 of the P198 Assessment Report.

The Group unanimously agreed that the Implementation Date for P203 should coincide with Parties' contractual rounds, such that the TLF values could be factored into Parties' contracts prior to their first use in Settlement. Given the required twelve-month lead time, the Group agreed that the earliest possible Implementation Date for P203 would therefore be 1 April 2008. The Group agreed a fall-back Implementation Date of 1 October 2008 on the basis that, whilst an October implementation might not be tied to Parties' full annual contract rounds, it would allow TLFs to be factored into autumn contracts and would prevent delaying implementation until the following April.

The new zonal TLF values would take effect from the first Settlement Period on the Implementation Date. For a 1 April implementation, this would also be the first Settlement Period on the first day of the BSC Year (part-way through the BSC Spring season). For a 1 October implementation (part-way through BSC Autumn), TLF values would only apply for six months during the first BSC Year of the scheme – from part-way through the BSC Autumn season to part-way through BSC Spring, when the next year's BSC Spring TLF value would take effect. TLFs for all subsequent years would be applied on a seasonal basis for each full BSC Year. The Group agreed that the legal text needed to be sufficiently flexible to cover the possibility of either an April or October implementation in the first year of the scheme. Clarifications were therefore included within the legal drafting to cover the eventuality that the Proposed Modification would be implemented part-way through a BSC Year.

P203 IMPLEMENTATION COSTS⁵

		Cost	Tolerance
Logica CSA Cost	Change Specific Cost	£25,864	Nil
	Release Cost	£17,114	Nil
	Total Logica CSA Cost	£42,978	Nil
TLFA/Load Flow Model Reviewer Cost	Development, Testing and Deployment	£250,000	+/- 50%
BSC Audit Cost	Planning and Development	£15,000	+/- 50%
Implementation Cost	External Programme Audit	£0	Nil
	Design Clarifications	£14,294	+/- 100%
	Additional Resource Costs	£0	Nil
	Additional Testing/Audit Support Costs	£20,000	+/- 50%
Total Demand Led Implementation Cost		£342,272	+/- 50%
ELEXON Implementation Resource Cost		613 man days	+/- 5%
		£134,860	
Total Implementation Cost		£477,132	+/- 35%

P203 ONGOING SUPPORT AND MAINTENANCE COSTS

		Cost	Tolerance
Logica CSA Operation Cost Per BSC Year		£1,550	Nil
Logica CSA Maintenance Cost Per BSC Year		£0	Nil
TLFA/Load Flow Model Reviewer Operational Cost Per BSC Year		£100,000	+/- 50%
BSC Auditor Cost Per BSC Year		£40,000	+/- 50%
ELEXON Operational Cost Per BSC Year		70 man days £15,400	+/- 5%
Total Operational Cost Per BSC Year		£156,950	+/- 45%

⁵ An explanation of the cost terms used in this section can be found on the BSC Website at the following link:
http://www.elexon.co.uk/documents/Change_and_Implementation/Modifications_Process_-_Related_Documents/Clarification_of_Costs_in_Modification_Procedure_Reports.pdf

5 RATIONALE FOR MODIFICATION GROUP'S RECOMMENDATIONS TO THE PANEL

This section summarises the recommendations of the Group, as detailed in the P203 Assessment Report in Appendix 3.

5.1 Assessment of P203 Against Applicable BSC Objectives

Table 2 – Modification Group's View of Proposed Modification

Proposed Modification better facilitates?	Applicable BSC Objectives				
	(a)	(b)	(c)	(d)	Overall
Yes	Minority	Majority	Minority	None	Minority
No	None	Minority	Majority	Minority	Majority
Neutral	Majority	Minority	None	Majority	Minority

Applicable BSC Objective (a) – The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

The **MAJORITY** view of the Group was that Proposed Modification P203 would have a **NEUTRAL** effect on the achievement of Applicable BSC Objective (a). This was consistent with the view provided within the Transmission Company Analysis for Alternative Modification P198, where the Transmission Company concluded that the introduction of seasonal zonal TLFs would have no impact on its ability to discharge its licence obligations (see Appendix 3 of the P198 Assessment Report) – and with the Transmission Company's consultation response in respect of P203, which did not identify any impact on the achievement of Applicable BSC Objective (a) (see Appendix 6 of the P203 Assessment Report). One of these members did not believe that the current arrangements could be construed as being discriminatory.

The view of a **MINORITY** of members was that Proposed Modification P203 **WOULD** better facilitate the achievement of Applicable BSC Objective (a), by removing the market distortions and discrimination generated by the existing uniform allocation of variable losses. This reflected the view provided by the Authority in the P75 and original P82 decision letters that "*addressing the cross-subsidy in the present transmission losses charging arrangements through more cost-reflective charging will also help to remove the discrimination that exists in the present arrangements*". One member also believed that Proposed Modification P203 could assist the Transmission Company in making efficient despatch decisions for balancing services.

Applicable BSC Objective (b) – The efficient, economic and co-ordinated operation of the GB transmission system

The **MAJORITY** view of the Group was that Proposed Modification P203 **WOULD** better facilitate the achievement of Applicable BSC Objective (b). These members believed that the external cost-benefit analysis had highlighted a significant reduction in the level of variable losses under the use of seasonal zonal TLF values, as a result of more efficient short-term plant despatch. Although some of these members believed that the cost-benefit analysis demonstrated that the long-term signals provided by such a scheme might be ambiguous, they believed that the identified savings from redespatch would still deliver a net efficiency benefit.

One member of the Group also argued that, in addition to introducing more efficient short-term despatch, P203 would introduce long-term signals influencing business decisions regarding investment in both generation and demand. This member believed that the results of the cost-benefit analysis demonstrated that Parties are already taking account of the possible introduction of a zonal transmission losses scheme in their planning decisions, since the introduction of such a scheme has been discussed for several years.

The view of a **MINORITY** of members was that Proposed Modification P203 would have a **NEUTRAL** impact on the achievement of Applicable BSC Objective (b). This view was generally based on the findings of the cost-benefit analysis that the introduction of a seasonal zonal transmission losses scheme would not result in the relocation of any existing generating plant. These members argued that this demonstrated that the Proposed Modification would not provide a long-term signal to the market relative to other existing signals, and that any efficiency benefit would therefore be negligible. Some members believed that the introduction of a seasonal zonal transmission losses scheme would not have a significant impact on plant despatch. Noting that this was not necessarily supported by the cost-benefit analysis, these members considered that the analysis had been based on an economic despatch model which might not be representative of realistic market conditions.

The view of another **MINORITY** of members was that Proposed Modification P203 **WOULD NOT** better facilitate the achievement of Applicable BSC Objective (b). These members did not believe that the Proposed Modification would lead to more efficient despatch. One of these members noted that the seasonal TLF values calculated by OXERA for 2006/07 were not identical to those calculated by PTI for that year. Although noting that this was a consequence of the cost-benefit analysis modelling approach (which calculated TLFs for three representative snapshot periods per season rather than the total 623 Sample Settlement Periods used by PTI across the four seasons), the member therefore questioned the despatch benefits identified by the cost-benefit analysis. Another member considered that, at a time when the market is concerned over the security of supply, it was inappropriate to be considering changes which would impact the cost base of participants.

Applicable BSC Objective (c) – Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

The **MAJORITY** view of the Group was that Proposed Modification P203 **WOULD NOT** better facilitate the achievement of Applicable BSC Objective (c). These members noted the distributional effects of a zonal transmission losses scheme highlighted in the cost-benefit analysis, and believed that these represented windfall gains and losses which would penalise existing investment decisions with a negative impact on competition. Some members disagreed with the findings of the cost-benefit analysis that there would be no disproportionate impact on any class or classes of Parties, and believed that disproportionate impacts would arise. Some of these members considered that it would be impractical for demand to respond to either short-term or long-term signals. Some believed that certain types of generation (such as renewables or Combined Heat and Power (CHP) plant) would be limited in their ability to respond to despatch signals, whilst some argued that all existing generators would be unable to respond to any long-term locational signals. These members therefore believed that P203 would have a disproportionate impact on such Parties. Some members did not agree that the existing arrangements represented a cross-subsidy. Additionally, some members believed that the Proposed Modification would increase volatility and would raise the cost of capital for new entrants to the market. One of these members also believed that P203 would create uncertainty by having TLF values which varied from year to year, which would have an impact on Parties' contracts.

A **MINORITY** of members believed that Proposed Modification P203 **WOULD** better facilitate the achievement of Applicable BSC Objective (c). One of these members did not believe that the distributional impacts of a zonal transmission losses scheme were a valid consideration against its approval, since they believed that these represented the removal of the cross-subsidy between Suppliers (north to south) and generators (south to north) which was inherent in the existing uniform allocation of variable losses. This member also believed that the zonal nature of the scheme would ensure that individual BM Units were not unduly penalised, whilst basing the scheme on an ex-ante calculation would allow Parties to estimate the impact of TLFs on their charges and reflect these in their advance contracts. The same member argued that Parties already took account of regulatory risk in becoming a Code signatory, and therefore did not believe that the Proposed Modification would have any impact in this area.

One member of the Group argued that Proposed Modification P203 would also introduce long-term signals influencing business decisions regarding investment in both generation and demand. This member believed that the results of the P198 cost-benefit analysis demonstrated that Parties are already taking account of the possible introduction of a zonal transmission losses scheme in their planning decisions, since the introduction of such a scheme has been discussed for several years.

Applicable BSC Objective (d) – Promoting efficiency in the implementation and administration of the balancing and settlement arrangements

The **MAJORITY** view of the Group was that Proposed Modification P203 would have a **NEUTRAL** effect on the achievement of Applicable BSC Objective (d). These members believed that the implementation costs of the proposal were not significant. One member considered that increased cost and complexity in the balancing and settlement arrangements was not in itself a negative effect, if the process which was being introduced promoted efficiencies.

A **MINORITY** of members believed that Proposed Modification P203 **WOULD NOT** better facilitate the achievement of Applicable BSC Objective (d). These members argued that the Proposed Modification would add cost and complexity to the BSC arrangements, reducing overall efficiency.

Summary

On balance, a **MAJORITY** of members believed that any benefits under Applicable BSC Objective (b) would be limited and would be outweighed by a negative impact on Applicable BSC Objective (c). These members therefore believed that Proposed Modification P203 **WOULD NOT** better facilitate the achievement of the Applicable BSC Objectives overall, and should not be made.

Another member stated that, although they believed that the balance between the potential benefits and disbenefits of the Proposed Modification would lead to a neutral effect overall, they believed that the Proposed Modification should not be made since the case for change was unproven.

A **MINORITY** of members believed that Proposed Modification P203 **WOULD** better facilitate the achievement of both Applicable BSC Objectives (b) and (c), and should therefore be made. Some of these members also believed that the Proposed Modification would better facilitate the achievement of Applicable BSC Objective (a).

Another **MINORITY** of members believed that any potential benefit under Applicable BSC Objective (b) and any negative impact under Objective (c) would be finely balanced. These members therefore stated that they remained **NEUTRAL** as to whether the Proposed Modification would better facilitate the achievement of the Applicable BSC Objectives overall.

5.2 Final Recommendation to the Panel

On the basis of the above assessment, the Modification Group therefore agreed a **MAJORITY** recommendation to the Panel that P203 **SHOULD NOT** be made.

5.3 Implementation Date

The Group unanimously agreed the following recommended Implementation Dates for P203:

- 1 April 2008, if an Authority decision is received on or before 22 March 2007; or
- 1 October 2008, if an Authority decision is received after 22 March 2007, but on or before 20 September 2007.

An explanation of these dates can be found in Section 4. A specific question on the Group's recommended Implementation Dates was included within the P203 Assessment Procedure consultation, and details of the responses received can be found in Section 5.4 of the P203 Assessment Report in Appendix 3.

5.4 Legal Text

The Group has reviewed the legal text for the Proposed Modification, and has agreed that it delivers the solution developed by the Group. An explanation of the Group's legal text requirements can be found in Section 4 of the P203 Assessment Report in Appendix 3.

5.5 Interaction with P198

In accordance with the BSC Modification Procedures, P198 and P203 were assessed separately by their respective Modification Groups as to whether they would better facilitate the achievement of the Applicable BSC Objectives compared with the existing Code baseline – and not compared with each other. The P203 Group noted that the majority recommendation of the P198 Group was that neither the P198 Proposed nor Alternative Modifications should be made. However, a majority of members considered that it would be useful to indicate a preference between P198 and P203, so that this could be taken into account by the Panel and the Authority.

A majority of P203 members expressed a preference for Proposed Modification P203 over Proposed Modification P198, due to the use of seasonal rather than annual TLF values. No members expressed a preference for Proposed Modification P198 over Proposed Modification P203. A minority of members abstained – either because they did not have a strong preference either way, or since they did not believe that it was appropriate to express a preference between stand-alone Modification Proposals.

A narrow majority of members expressed a preference for Alternative Modification P198 over Proposed Modification P203, due to its inclusion of phasing. A large minority of members did not support phasing, and therefore expressed a preference for Proposed Modification P203 over P198 Alternative. One member abstained.

6 RATIONALE FOR PANEL'S RECOMMENDATIONS TO THE AUTHORITY

6.1 Panel's Consideration of Assessment Report

The Panel considered the P203 Assessment Report at its meeting on 10 August 2006. This section summarises the Panel's discussions in formulating its provisional recommendation for inclusion in the draft Modification Report. Details of the Report Phase consultation responses, the Panel's discussion of the responses and its final recommendation to the Authority can be found in Sections 6.2, 6.3 and 6.4 respectively.

6.1.1 Assessment Procedure Consultation Responses

The Panel noted the responses received to the additional consultation on the correction of a data error within the OXERA cost-benefit analysis (see Appendix 7 of the P203 Assessment Report in Appendix 3). The Panel noted that the respondents to this consultation had confirmed that the correction of the data error did not alter their overall views regarding P203, and that in some cases it had reinforced respondents' views. The Panel noted that one respondent had identified what they perceived to be a further error in the cost-benefit analysis. This respondent believed that northern embedded generation would be disproportionately impacted by P203, as northern Suppliers would pay less for losses – making the use of embedded generation less advantageous in the north. The respondent believed that this would therefore incentivise more embedded generation in the south (where the cost of losses would be higher for Suppliers) at the expense of that in the north. BSCCo advised that it did not believe the points made by the respondent represented an error in the cost-benefit analysis, but rather a view that the analysis did not fully cover the specific circumstances of the respondent concerned. The Panel noted that the arguments expressed by the respondent had been made by OXERA in the context of embedded renewable generation, but not specifically for non-renewable embedded generators. The Panel therefore agreed that no further assessment of P203 was required, and that the Modification Proposal could proceed to the Report Phase.⁶

The Panel noted that many of the arguments expressed by consultation respondents fell outside the vires of the BSC. Whilst some Panel members were sympathetic to some of these arguments (for example, those relating to potential impacts on the environment, consumers or Transmission Network Use of System Charging), the Panel agreed that such considerations could not form part of its assessment of P203 against the Applicable BSC Objectives but could be considered by the Authority as part of its wider statutory duties. Following the Panel Meeting on 10 August 2006, the Authority subsequently published a letter stating that its current assumption was that a Regulatory Impact Assessment would be undertaken for P203 as part of its decision-making process.⁷

The Panel made no further comments specifically on the P203 consultation responses. However, some of the Panel's discussion of the P198 consultation responses was also applicable to P203, and further details of these discussions can be found in Section 6.1.1 of the P198 Modification Report in Appendix 4.

6.1.2 Applicable BSC Objectives

The **MAJORITY** provisional view of the Panel was that P203 **WOULD NOT** better facilitate the achievement of the Applicable BSC Objectives. Generally, these Panel Members believed that Applicable BSC Objectives (b) and (c) were the most relevant to the assessment of P203, and that any benefits under Applicable BSC Objective (b) would be limited and would be outweighed by negative impacts on Objective (c).

The **MINORITY** provisional view of one Panel Member was that P203 **WOULD** better facilitate the achievement of the Applicable BSC Objectives. This Panel Member believed that positive benefits under Applicable BSC Objective (b) would outweigh any potential negative impacts under Objective (c), which this Member believed to be minor.

The specific views expressed by Panel Members in relation to each Applicable BSC Objective are set out below.

⁶ One response to this consultation was received on 11 August 2006 (three days after the consultation deadline), and therefore did not receive consideration by the Panel on 10 August 2006. This response is contained within Appendix 7 of the P203 Assessment Report for completeness, but is marked as a late response. The late response is not believed to contain any arguments which had not previously been considered by the Group and the Panel during the Assessment Procedure.

⁷ http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16084_137_06.pdf

Applicable BSC Objective (a) – The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

Most Panel Members did not believe that P203 would have any impact on the achievement of Applicable BSC Objective (a).

One Panel Member did believe that the existing uniform allocation of variable losses gave rise to market distortions and discrimination. However, this Member did not necessarily believe that P203 would address these effects, due to concerns over the consequence of zonal averaging in the calculation of TLFs (see below).

Applicable BSC Objective (b) – The efficient, economic and co-ordinated operation of the GB transmission system

One Panel Member – although considering that the actual despatch efficiencies and reduction in losses which would result from the application of seasonal zonal TLFs might be less than those identified by the OXERA cost-benefit analysis (since this Member believed that the discount rate used by OXERA had been too low) – did believe that P203 would deliver significant positive benefits in these areas. Another Panel Member agreed that P203 would give rise to short-term benefits. This Member argued that, although losses might be a second-order consideration, P203 would have a marginal effect on marginal decisions.

Other Panel Members argued that the despatch benefits identified by the cost-benefit analysis would not be realised in practice – believing either that they would not be sufficient to deliver an overall net benefit, or that any resulting net benefit would be very limited. Some of these Members believed that the cost-benefit analysis demonstrated that the potential for longer-term savings in losses through redespach would be reduced from beyond 2012. Other Members noted that the cost-benefit analysis had been based on the assumption of economic despatch, and believed that this might not be representative of realistic market conditions. These Members argued that any actual loss savings resulting from P203 could therefore be less than those identified by the cost-benefit analysis.

Some Members believed that P203 would not make a difference to long-term locational signals relative to other existing signals in the market, noting the conclusion of the cost-benefit analysis that the impact of a seasonal zonal losses scheme in this area was ambiguous.

Some Panel Members argued that the fundamental principle behind any non-uniform transmission losses charging scheme should be to generate price signals to reduce the amount of losses. These Members believed that, since the signals provided by such a scheme were relative rather than absolute, it was important that they were correct – and considered that the analysis undertaken by PTI and OXERA demonstrated that the signals generated by seasonal zonal TLFs would be inaccurate (although more accurate than the use of annual values), due to the zonal averaging within the calculation. Although some of these Members stated that they were sympathetic to a non-uniform losses allocation in principle, they therefore did not believe that P203 would generate the correct signals to incentivise more economically-efficient despatch and location decisions.

Applicable BSC Objective (c) – Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

Some Panel Members argued that P203 would create windfall gains and losses for existing generators, which would be unable to respond to any locational signals provided by the scheme by relocating their plant. These Members therefore considered that the distributional effects identified by the cost-benefit analysis would be anti-competitive, since they believed that these would lead to stranded assets. Some Members believed that it would not be possible for demand to respond to the P203 signals, although one Member believed that large energy users would be able to respond to price signals. Some Members indicated that they would have been more sympathetic to a scheme which only applied TLFs to new connections, or which phased in TLF values over a significant period such as 15-20 or 40-50 years. Other Panel Members expressed concern regarding the distributional effects of the scheme, although these Members did not necessarily identify these effects as representing windfall gains and losses.

Another Panel Member believed that, whilst the distributional effects of P203 might be perceived as unfair or regrettable, they were not anti-competitive or disruptive – and would not result in bankruptcy for any Parties. This Member believed that costs for participants would continue to be the same, but that P203 would mean that prices were more reflective of these costs. This Member believed that the only potentially negative impact of P203 on competition would be as a result of creating local geographic monopolies; however, the Member believed that this impact would be minor.

Some Panel Members argued that P203 would give rise to disproportionate impacts on renewable generators – believing that the location of these generators was determined by resource, and would therefore be primarily within the disadvantageous northern generating Zones. One Panel Member disagreed and argued that P203 would incentivise southern renewable generation closer to demand, where it was needed. Another Panel Member believed that the BSC was not the appropriate forum to specifically protect or incentivise renewable generation, and that any such protection should be provided separately by Ofgem and the government. This Member believed that the effects of P203 on renewables were therefore not an issue for competition under the scope of the Applicable BSC Objectives.

Some Panel Members believed that P203 would increase the cost of capital to new entrants to the market. These Members therefore disagreed with the conclusion of the OXERA cost-benefit analysis that a zonal transmission losses scheme would have no impact in this area. One of these Members argued that zonal loss charging would represent another variable in investment decisions – and believed that, whilst larger Parties could establish a fixed cost of capital, smaller players would be unable to offset this increased investment risk. This Member stated that investment decisions were taken against a fixed rate of return, and that a small increase in the cost of capital could have a significant effect.

Some Panel Members did not believe that P203 would increase the cost of capital to the extent to which it had individual impacts on Parties, although these Members believed that it would increase perceptions of regulatory risk more generally. One of these Members noted that there had been a previous public disparity between the views of the Authority and the Department of Trade and Industry regarding the merits of zonal loss charging, and believed that this – combined with the potential that P203 would be subject to a legal challenge – would create additional regulatory risk. This Member also considered that such risk might disincentivise investment in the GB market.

One Panel Member strongly disagreed with the views of those consultation respondents and members of the Group who believed that P203 would increase regulatory risk or the cost of capital, and believed that the arguments which had been put forward to support these views were not economically robust.

Some Panel Members believed that the use of zonal averaging within the TLF calculation under P203 would involve approximations and would generate inaccurate signals for Parties. These Members considered that the PTI analysis had demonstrated that the average TLF for a given Zone would not be representative of all the individual TLF values for the Nodes which made up that average, and believed that this nodal variation from the average would benefit some BM Units within a Zone whilst disadvantaging others. One Member also believed that use of a zonal average would prevent competition within a Zone.

Some of these Members indicated that they would have been more sympathetic to a zonal losses scheme which was based on the calculation of TLFs at the nodal level – with some of these members expressing a preference for a seasonal nodal calculation, whilst one Member expressed potential support for a half-hourly calculation. BSCCo clarified that a nodal TLF calculation had been considered by the P198 Group as a potential option for an Alternative Modification to P198 (see Section 4.6.3 of the P198 Assessment Report). However, the P198 Group had unanimously concluded that such an approach was not appropriate for a scheme which included both generation and demand – since TLFs for demand and embedded generation could only be applied at the GSP Group level, and the Group believed that it was essential that Zones for generation and demand were the same. BSCCo also advised that the P198 Group had considered the possibility of a half-hourly, potentially ex-post, application of TLFs (see Section 4.6.2 of the P198 Assessment Report), but had agreed by majority that this would create an unhedgable risk for Parties and significant implementation costs with little additional benefit. The P203 Group had considered that these arguments were also applicable to P203 (see Section 4.5 of the P203 Assessment Report in Appendix 3). One Panel Member stated that they would be more sympathetic to a nodal TLF calculation which applied only to new generators, and not to existing generators or demand.

Some Panel Members also believed that P203 would create uncertainty for Parties, since they considered that the nature of the zonal averaging would mean that the TLF value applied to an individual BM Unit would be affected by the actions of other BM Units within its Zone – as well as other additional factors outside its control such as Transmission System constraints.

Applicable BSC Objective (d) – Promoting efficiency in the implementation and administration of the balancing and settlement arrangements

The majority of Panel Members did not believe that P203 would have any impact on the achievement of Applicable BSC Objective (d). However, one Panel Member believed that what they perceived as the negative effects of the zonal averaging element of the calculation could lead to TLF values being legally challenged, were P203 to be implemented. This Member believed that this potential for ongoing legal expenses post-implementation would have a negative effect on the efficiency of the balancing and settlement arrangements.

6.1.3 Provisional recommendation to the Authority

The Panel therefore agreed a **MAJORITY** provisional recommendation to the Authority that P203 **SHOULD NOT** be made.

6.1.4 Implementation Date

The Panel provisionally agreed with the Group's recommendations regarding the Implementation Date for P203.

6.1.5 Legal Text

The Panel provisionally agreed that the draft legal text delivered the solution set out in the P203 Assessment Report.

6.1.6 Interaction with P198

Although not part of its formal recommendations to the Authority, the Panel agreed that it would be useful to indicate a preference between P198 and P203 so that this could be taken into account by the Authority in its decision as to which (if either) of the proposals would best facilitate the achievement of the Applicable BSC Objectives overall.

The unanimous provisional view of the Panel was that P203 would be better than Proposed Modification P198, as it believed that the use of seasonal TLF values would be more accurate than annual values. However, the majority provisional view of the Panel was that P203 would not be better than Alternative Modification P198, due to its lack of phasing. A minority of Panel Members, who did not support phasing, disagreed and believed that P203 would be better than P198 Alternative since it would not delay any benefits associated with the scheme. Further details regarding the Panel's views concerning P198 can be found in the P198 Modification Report in Appendix 4.

6.2 Results of Report Phase Consultation

[This section to be completed following the Report Phase consultation.]

6.3 Panel's Consideration of Draft Modification Report

[This section to be completed following the Panel meeting at which the draft Modification Report and Report Phase consultation responses are considered.]

6.4 Panel's Final Recommendation to the Authority

[This section to be completed following the Panel meeting at which the draft Modification Report and Report Phase consultation responses are considered.]

7 TERMS USED IN THIS DOCUMENT

An explanation of all the terms used in this document can be found in Section 7 of the P198 Assessment Report.

8 DOCUMENT CONTROL

8.1 Authorities

Version	Date	Author	Reviewer	Reason for Review
0.1	15/08/06	Kathryn Coffin	Sarah Jones	For technical review
0.2	18/08/06	Kathryn Coffin	Interested parties	For industry consultation
0.3	dd/mm/yy	Kathryn Coffin	Sarah Jones	For technical review
0.4	dd/mm/yy	Kathryn Coffin	Change Delivery	For quality review
0.5	dd/mm/yy	Change Delivery	BSC Panel	For Panel decision
0.6	dd/mm/yy	Kathryn Coffin	Sarah Jones	For technical review
1.0	dd/mm/yy	BSC Panel		For Authority decision

8.2 References

Ref.	Document Title	Owner	Issue Date	Version
1	Assessment Report for Modification Proposal P198 'Introduction of a Zonal Transmission Losses Scheme' ELEXON - Modification Proposal 198	BSCCo	18/08/06	2.0
2	Draft Modification Report for Modification Proposal P200 'Introduction of a Zonal Transmission Losses Scheme with Transitional Scheme' ELEXON - Modification Proposal 200	BSCCo	18/08/06	0.2

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APPENDIX 1: LEGAL TEXT

Draft legal text for the Proposed Modification is attached as a separate document, Appendix 1A.

APPENDIX 2: PROCESS FOLLOWED

Copies of all documents referred to in the table below can be found on the BSC Website at: [ELEXON - Modification Proposal 203](#).

Date	Event
26/06/06	Modification Proposal raised by RWE Npower
13/07/06	IWA presented to the Panel
14/07/06	First Assessment Procedure Modification Group meeting held
17/07/06	Assessment Procedure Consultation issued
28/07/06	Assessment Procedure Consultation responses returned
01/08/06	Second Assessment Procedure Modification Group meeting held
01/08/06	Cost-Benefit Analysis Data Correction Consultation issued
08/08/06	Cost-Benefit Analysis Data Correction Consultation responses returned
10/08/06	Assessment Report presented to the Panel
18/08/06	Report Phase Consultation issued
01/09/06	Report Phase Consultation responses returned
14/09/06	Draft Modification Report presented to the Panel
TBC	Final Modification Report submitted to the Authority

ESTIMATED COSTS OF PROGRESSING MODIFICATION PROPOSAL⁸

Meeting Costs	£1,000
Legal/Expert Cost	£0
Impact Assessment Cost	£0
ELEXON Resource	15 man days, equating to £3,860

These costs are unchanged from those provided in the P203 IWA and Assessment Report.

⁸ Clarification of the meanings of the cost terms in this appendix can be found on the BSC Website at the following link: http://www.elexon.co.uk/documents/Change_and_Implementation/Modifications_Process_-_Related_Documents/Clarification_of_Costs_in_Modification_Procedure_Reports.pdf.

APPENDIX 3: ASSESSMENT REPORT

The P203 Assessment Report is attached as a separate document, Appendix 3A.

[For the purposes of the Report Phase consultation and the Panel's consideration of the draft Modification Report, the P203 Assessment Report can be found on the BSC Website at: [ELEXON - Modification Proposal 203](#)]

The Assessment Report includes:

- The discussions and conclusions of the Group regarding the areas set out in the P203 Terms of Reference;
- Details of the Group's membership;
- The full results of the external TLF modelling exercise conducted by PTI;
- The full results of the external cost-benefit analysis conducted by OXERA;
- Full copies of all responses received to the Assessment Procedure consultation and the subsequent cost-benefit analysis data correction consultation; and
- A full copy of the P198 Assessment Report (Reference 1) attached as an appendix to the P203 Assessment Report.

APPENDIX 4: P198 MODIFICATION REPORT

The P198 Assessment Report is attached as a separate document, Appendix 4A.

[For the purposes of the Report Phase consultation and the Panel's consideration of the draft Modification Report, the P198 draft Modification Report can be found on the BSC Website at: [ELEXON - Modification Proposal 198](#)]

APPENDIX 4: REPORT PHASE CONSULTATION RESPONSES

[To be attached following Report Phase consultation.]