XX/XXX

Draft MODIFICATION REPORT for Modification Proposal P200 'Introduction of a Zonal Transmission Losses with Transitional Scheme'

Prepared by: ELEXON[1] on behalf of the BSC Panel

Date of Issue:	18 August 2006	**Document Reference:**	P200RR
Reason for Issue:	For consultation	**Version Number:**	0.2

This document has been distributed in accordance with Section F2.1.10 of the Balancing and Settlement Code.[2]

Proposed Modification P200 seeks to allocate the 'variable' (heating) element of transmission losses to BSC Parties on a 'zonal' basis through the Transmission Loss Factor (TLF). The proposed methodology for the calculation of these 'zonal' TLFs is consistent with that set out in the solution for Proposed Modification P198. In addition, P200 seeks to mitigate the financial impact of introducing these zonal TLFs through a transitional 'hedging' scheme, whilst maintaining their effect on incentives. The hedging scheme would be applied to a fixed volume of energy (the 'F-factor') for qualifying 'generator' BM Units, allowing the retention of a non-zonal share of transmission losses for that energy volume over a period of 15 years from the date of the implementation of P200.

Alternative Modification P200 builds upon the same solution as for the Proposed Modification except that the zonal TLFs would vary by BSC Season; with four seasonal values, instead of one annual value.

BSC PANEL'S RECOMMENDATIONS

Having considered and taken into due account the contents of the P200 draft Modification Report, the BSC Panel recommends:

- **that Proposed Modification P200 should not be made;**
- **that Alternative Modification P200 should not be made;**
- **an Implementation Date for both the Proposed Modification and Alternative Modification 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

CONTENTS TABLE

 © ELEXON Limited 2006

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 P200.

Please note that this table represents a summary of the full impact assessment results contained in Appendix 3 of the P200 Assessment Report. A copy of the Assessment Report is attached as Appendix 3 to this Modification Report.

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

*New document/role introduced by P200

© ELEXON Limited 2006

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 Limited on 16 December 2005);
- Modification Proposal P203 'Introduction of a Seasonal Zonal Transmission Losses Scheme' (raised by RWE Npower on 26 June 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 P200 Assessment Report in Appendix 3. The Modification Reports for P198 (attached as Appendix 4 to this report) and P203 (Reference 2) are scheduled to be presented to the BSC Panel ('the Panel') and the Authority in parallel with P200. P204 is currently within the Assessment Procedure, with an Assessment Report to be presented to the Panel at its meeting on 12 October 2006.

 © ELEXON Limited 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 elements of P200 and P198, it is advisable to read the P198 Modification Report prior to that for P200. 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	-	-

© ELEXON Limited 2006

2 DESCRIPTION OF MODIFICATION

P200 seeks to introduce zonal TLFs calculated under the same methodology as P198, but proposes a different application of these TLFs in Settlement. It aims to apply a 'transitional hedging scheme' to mitigate the impact of the zonal TLFs on existing generators over 15 years, by retaining a non-zonal allocation of transmission losses for a fixed level of output (the 'F-factor') and allocating a zonal TLM only to any variation from this output. In addition to the calculation of zonal TLFs under the P198 methodology, P200 would introduce new Code calculations for the new F-factor volumes and for the non-zonal transmission losses that the F-factor volumes would receive.

This section outlines the solutions for the Proposed Modification and Alternative Modification, as developed by the P200 Modification Group ('the Group') during the Assessment Procedure. For a full description of the original Modification Proposal as submitted by Teesside Power Ltd ('the Proposer'), please refer to the P200 Initial Written Assessment (IWA). Further background to the proposal can be found in Section 2 of the P200 Assessment Report in Appendix 3.

2.1 Proposed Modification

Proposed Modification P200 can be considered to represent 'Proposed Modification P198 + transitional hedging scheme', as shown in the table below.

Aspect of Solution	P198 Proposed	P200 Proposed
Scope of Zonal TLF Calculation	Scaled Marginal (Variable Losses Only)	Scaled Marginal (Variable Losses Only)
Applicable Period for Zonal TLFs	BSC Year	BSC Year
Nature of TLF Calculation	Ex-Ante	Ex-Ante
Applicable Zones for Production BM Units	GSP Group	GSP Group
Applicable Zones for Consumption BM Units	GSP Group	GSP Group
Mitigation of impacts	None	Hedging for Fixed F-factor Volumes
Period of Mitigation	None	15 years from the implementation of P200

2.1.1 Key Features of Proposed Modification Transitional Hedging Scheme

The key features of the transitional hedging scheme element of Proposed Modification P200 are set out below:

1) The transitional hedging scheme under Proposed Modification P200 applies only to certain existing 'generator' BM Units ('Qualifying BM Units'). The qualifying criteria are based on Trading Units with net annual export and do not include Supplier Trading Units;

2) Proposed Modification P200 calculates a set of 12 monthly 'F-factor' volumes of electricity (in MWh) for each Qualifying BM Unit, representing an average level of generation in each calendar month over a historic 'Baseline Period';

© ELEXON Limited 2006

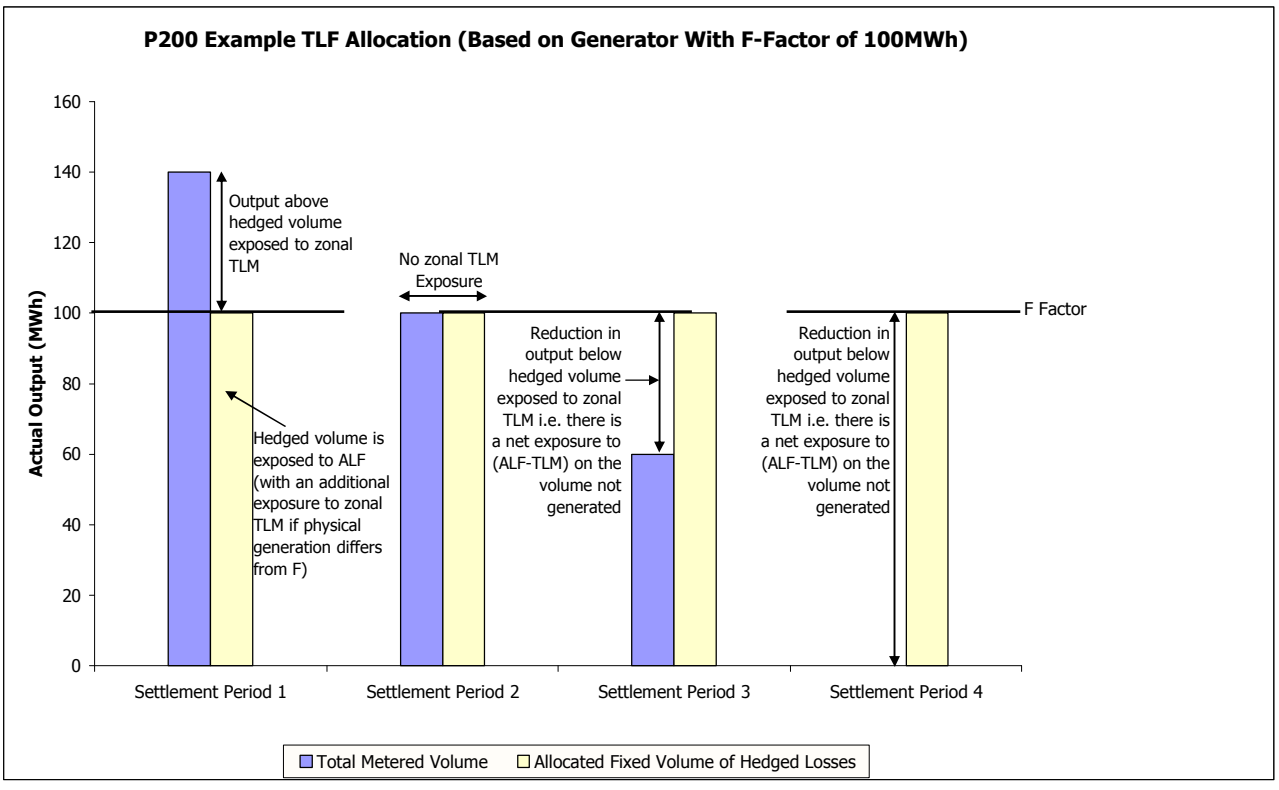
3) Proposed Modification P200 allocates to the F-factor volume of Qualifying BM Units a share of transmission losses on a non-zonal basis (calculated in the same way as the current TLMO+ with a zero TLF). The effect of this mechanism is that the zonal TLM only applies to the difference between the BM Unit's F-factor volume and actual Metered Volume in a given Settlement Period. If the difference is positive, the additional output receives the prevailing zonal TLF applicable to the BM Unit (subject to adjustment through the calculation of TLM). If the difference is negative, the volume 'not generated' receives the prevailing zonal TLM applicable to the BM Unit, which is subtracted from the full F-factor share of transmission losses applied on a non-zonal basis. Therefore, a credit is received on volume 'not generated' in negative TLF zones (this is in a zone where a generator's/supplier's volume would be scaled down) and a debit is received on that volume in positive TLF zones (this is in a zone where a generator's/supplier's volume would be scaled up); and

4) Proposed Modification P200 fixes the 12 monthly 'F-factor' volumes for each Qualifying BM Unit for 15 years from the implementation date of P200 and is mandatory for all Qualifying BM Units. Furthermore, the F-factor volume remains with the Qualifying BM Unit regardless of re-registration and change of BM Unit ownership (unless it becomes a Supplier BM Unit).

Those BM Units which did not qualify for the transitional hedging scheme under Proposed Modification P200 would have losses attributed to them based on a full (non-mitigated) zonal TLM. Further detail regarding the solution for the Proposed Modification can be found in Section 4 of the P200 Assessment Report in Appendix 3.

2.1.2 Example TLF Allocation Under Proposed Modification

The following graph seeks to illustrate at a high level how the principle of F-factor hedging under Proposed Modification P200 could affect a Qualifying BM Unit's transmission losses allocation, using as an example a BM Unit with an F-factor of 100MWh in four different Settlement Periods.



 © ELEXON Limited 2006

Note that example Settlement Period 4 represents a more extreme version of Settlement Period 3, where the generator's output is zero due to an outage. ALF represents the average loss multiplier that would be applied under the current BSC baseline (uniform loss allocation).

The remaining zonal TLM exposure in example Settlement Periods 1, 3 and 4 could be either a benefit or dis-benefit for the Qualifying BM Unit, depending on whether it was subject to a positive or negative zonal TLM. For example, a generator in the north (e.g. an exporting zone) would be credited with positive energy if it generated under its F-factor volume, whereas a generator in the south (importing zone) would be credited with negative energy if it generated under its F-factor volume. The energy credited to the BM Unit would be allocated to the Party's Energy Account.

A further scenario is where there are 3 generators within the same zone. All would have the same zonal TLF, however they would be allocated different losses based on their own F-factor volumes and their actual output.

2.1.3 Process description of Proposed Modification Transitional Hedging Scheme

In addition to the solution requirements for Proposed Modification P198, Proposed Modification P200 requires:

1) A one-off determination of Qualifying BM Units (impacting BSCCo);
2) A one-off calculation of F-factor volumes for Qualifying BM Units (impacting BSCCo);
3) A one-off publication of F-factor volumes for Qualifying BM Units (impacting BSCCo);
4) A one-off change to BSC Systems to add F-factors for all BM Units as a new parameter within BM Unit registration data (impacting the Central Registration Agent);
5) The ongoing calculation of a uniform loss allocation for F-factor volumes for Qualifying BM Units in Settlement (impacting the Settlement Administration Agent and the Balancing Mechanism Reporting Agent); and
6) An ongoing obligation on BSC Parties to notify BSCCo of certain information on deregistering a Qualifying BM Unit or registering a new BM Unit (impacting BSC Parties).

A more in-depth description of the requirements is contained in the revised Requirement Specification (Reference 3).

2.2 Alternative Modification

The Alternative Modification builds upon the same solution as for the Proposed Modification except that the Zonal TLFs would vary by BSC Season, i.e. 4 values, instead of one annual value.

Therefore, as per the solution for Alternative Modification P198, the Transmission Loss Factor Agent would calculate Nodal TLFs and Zonal TLFs in the same way as for the Proposed Modification, but would time-weight by BSC Season rather than by BSC Year to calculate a set of four **Seasonal Zonal TLFs** for each TLF Zone – one for each BSC Season. 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 February inclusive (or 29 February in a leap year).

Further detail regarding the solution for the Alternative Modification can be found in Section 4 of the P200 Assessment Report in Appendix 3.

 © ELEXON Limited 2006

3 AREAS RAISED BY THE TERMS OF REFERENCE

The following areas were considered by the Group during the Assessment Procedure for P200:

- The detail of the solutions and legal text for the P200 Proposed and Alternative Modifications, and their interaction with elements of those for P198;
- The applicability of the results of the P198 external TLF modelling exercise conducted by Siemens PTI to P200;
- The applicability of the results of the P198 external cost-benefit analysis conducted by OXERA Consulting to P200;
- The applicability of the considerations under previous Rejected Modification Proposal P109 to P200;
- The results of the Group's data analysis to determine the impact of F-Factors on the allocation of transmission losses;
- The implementation approach and costs for the Proposed and Alternative Modifications (based on the responses received to industry impact assessments);
- The responses received to the Assessment Procedure 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 Assessment Report contained in Appendix 3, and are not covered further here.

4 IMPLEMENTATION APPROACH AND COSTS

Since Proposed Modification P200 can be considered to represent 'Proposed Modification P198 + transitional hedging scheme', impact assessments were sought which focussed on the hedging element of P200. Two impact assessments were issued for both the Proposed Modification and separately for the Alternative Modification.

The implementation costs for P200 are based on the implementation costs for P198, with the additional costs under P200 relating to the transitional hedging scheme. The operational costs for P200 are identical to those for P198, since the calculation and registration of F-factors would be a one-off exercise undertaken prior to the Implementation Date and is therefore covered by the implementation costs shown below. A summary of these costs is provided on the following page. The same twelve-month lead time would be required for Proposed and Alternative Modification P200 as for P198 – since, although there would be additional implementation activities for P200, these could be paralleled with the TLFA procurement and development. A more detailed explanation of these costs and timescales can be found in Sections 4.11 and 4.12 of the P200 Assessment Report.

The Group agreed that the Implementation Date for P200 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 P200 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.

 © ELEXON Limited 2006

The new zonal TLFs and F-factor 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. For a 1 October implementation, TLF values and F-factor values would only be applied for six months during the first BSC Year of the scheme. 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 P200 would be implemented part-way through a BSC Year.

P200 IMPLEMENTATION COSTS[3]

		P200 Proposed	P200 Alternative	Tolerance
Logica CSA Cost	Change Specific Cost	£176,933	£186,933	Nil
	Release Cost	£151,536	£151,536	Nil
	Total Logica CSA Cost	£328,469	£338,469	Nil
TLFA/LFMR[3] Cost	Development, Testing and Deployment	£250,000	£250,000	+/- 50%
BSC Audit Cost	Planning and Development	£15,000	£15,000	+/- 50%
Implementation Cost	External Programme Audit	£0	£0	Nil
	Design Clarifications	£28,923	£29,423	+/- 100%
	Additional Resource Costs	£0	£0	Nil
	Additional Testing/Audit Support Costs	£20,000	£20,000	+/- 50%
Total Demand Led Implementation Cost		£642,392	£642,892	+/- 50%
ELEXON TOMAS system cost	System and documentation updates	£40,000	£40,000	+/-25%
ELEXON Implementation Resource Cost		780 man days £171,600	780 man days £171,600	+/- 5%
Total Implementation Cost		**£853,992**	**£864,492**	**+/- 22%**

[3] 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. LFMR : Load Flow Model Reviewer.

© ELEXON Limited 2006

P200 ONGOING SUPPORT AND MAINTENANCE COSTS			
	P200 Proposed	**P200 Alternative**	**Tolerance**
Logica CSA Operation Cost Per BSC Year	£2,645	£1,550	Nil
Logica CSA Maintenance Cost Per BSC Year	£0	£0	Nil
TLFA/LFMR Operational Cost Per BSC Year	£100,000	£100,000	+/- 50%
BSC Auditor Cost Per BSC Year	£40,000	£40,000	+/- 50%
ELEXON Operational Cost Per BSC Year	70 man days £15,400	70 man days £15,400	+/- 5%
Total Operational Cost Per BSC Year	**£158,045**	**£156,950**	**+/- 45%**

a) Implementation Costs

As for P198, the twelve-month implementation lead time for the P200 Proposed and Alternative Modifications, coupled with a 1 April Implementation Date means that it would not be possible to align the TLFA systems development with BSCCo's standard release strategy. Therefore P200 would be implemented largely as a 'stand-alone' project, with the associated release overheads that this would incur.

As the P200 hedging scheme is additional to the requirements of P198 a high-level summary of these additional impacts is provided below. Further detail can be found in both Section 4.5 of the P198 Assessment Report and Appendix 4 of the P200 Assessment Report.

BSCCo and BSC Agent Impact

The BSCCo and BSC Agent costs estimates of P200 which reflect the additional impact of P200 compared to P198 reflect the following activities:

- Creation of new scripts and databases in central systems to receive and store monthly F – Factor data sent via new manual interface from BSCCo.
- Modification of algorithms within central systems for calculation of key settlement variables.

Neither BSCCo nor the BSC Agent identified any change in the lead time for P200 from that reported for P198.

BSC Party Impact

Many BSC Parties indicated that there would be no material difference in either costs or lead times associated with changes to their systems and process arising from the additional requirements in P200 compared to P198 (both for Proposed and Alternative Modifications). However, other BSC Parties considered that P200 would affect both costs and lead times. Of those that did identify additional impact compared to P198, the maximum additional cost identified was £50,000 and the maximum additional lead time was two months.

Transmission Company Impact

The Transmission Company estimated that there would be no additional impact arising from the additional requirements in P200 compared to P198 (both for Proposed and Alternative Modifications).

More details regarding each of the impact assessments can be found in Appendix 4 of the P200 Assessment Report which is contained in Appendix 3 of this document.

© ELEXON Limited 2006

b) Operational Costs

No additional operational costs were identified for P200 in comparison to P198.

5 RATIONALE FOR MODIFICATION GROUP'S RECOMMENDATIONS TO THE PANEL

This section summarises the recommendations of the Group, as detailed in the P200 Assessment Report in Appendix 3.

5.1 Assessment of Proposed Modification Against Applicable BSC Objectives

The majority view of the Modification Group was that the Proposed Modification **WOULD NOT** better facilitate the achievement of Applicable BSC Objectives (a), (b), (c) and (d) when compared to the current Code baseline, for the following reasons stated below.

Table 1 – Modification Group's View of Proposed Modification

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

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

The view of a **MAJORITY** of members was that the Proposed Modification **WOULD NOT** better facilitate the achievement of Applicable BSC Objective (a).

These members believed that P200 would introduce undue discrimination and therefore would impact on National Grid's transmission licence. This was because of the different treatment for different types of BM Unit and because P200 would provide protection for certain parties, e.g. new entrants and SVA registered BM Units did not qualify for the F-factor volume allocation. Some of these members also felt that this treatment and the added complexity of P200's hedging scheme led to a less efficient settlement process, thus impacting Condition C3.

The **MINORITY** view of the Group was that the Proposed Modification **WOULD** better facilitate the achievement of Applicable BSC Objective (a). They believed that P200 would remove market distortions and the discrimination that exist in the present arrangements due to the introduction of the zonal transmission losses methodology (as P198 does also).

A **MINORITY** of the Group believed that P200 had no impact on the achievement of Applicable BSC Objective (a).

© ELEXON Limited 2006

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

The **MAJORITY** view of the Group was that the Proposed Modification **WOULD** better facilitate the achievement of Applicable BSC Objective (b). These members believed that P200 would have the same beneficial impact on despatch as P198 which would lead to a reduction in the level of losses. Furthermore, they felt there would be a stronger incentive to respond to the locational signals from zonal transmission losses and that due to the hedging scheme these signals would persist for the lifetime of project for existing generation. They also believed that the identified savings from re-despatch would still deliver a net efficiency benefit.

One member felt that there was only a minimal benefit for despatch, however P200 would reduce transmission losses and hence improve the efficiency of the transmission system. This proposed reduction in losses was supported by another member. One member believed that the marginal signal would be stronger than for P198 because of the addition of the F-factor hedging scheme.

One member of the Group also argued that, in addition to introducing more efficient short-term despatch, P200 would introduce long-term signals influencing business decisions regarding investment in both generation and demand.

The view of a **MINORITY** of members was that the Proposed Modification **WOULD** not better facilitate the achievement of Applicable BSC Objective (b). These members believed that the hedging scheme would counter the efficiency of P198 zonal transmission losses. One member felt that P200 would increase generation costs in the south of England as generators would be allocated losses even if they were not generating, leading to more plant closure. This would increase the overall level of losses. He also believed that the hedging scheme cancelled out the benefits of zonal TLFs. Another member felt that F-factor hedging scheme was contrary to market principles as it is based on historic performance.

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 members that believed that the Proposed Modification **WOULD NOT** better facilitate (c), felt that it would reduce competition as P200 introduced discrimination in its treatment of different parties. One member particularly thought it was anti-competitive in the case where a party would want to invest in new plant next to existing plant and would not benefit from an F-factor allocation.

One member believed that the better despatch signal and cost reflectivity of zonal TLFs would be undermined because the hedging scheme would preserve the existing cost-subsidy. Furthermore, it creates an additional cross-subsidy by the F-factor allocation of hedged losses, especially when a BM Unit is not generating.

The **MINORITY** view of the Group was that the Proposed Modification **WOULD** better facilitate the achievement of Applicable BSC Objective (c). These members thought that the hedging scheme would promote effective competition in generation and supply by protecting market participants from windfall gains and losses on sunk investments, encouraging investment and enhancing long term efficiency. They also believed that zonal TLFs would increase cost reflectivity and that the hedging scheme would keep the investment signal and provide more certainty to parties, thus reducing regulatory risk. Thereby helping new entrants and protecting existing ones.

One member believed that the hedging scheme would reduce the overall cost of producing electricity and the overall market price. Another member recognised the cross-subsidy element to P200, but stated that cross-subsidies already exist elsewhere and are acceptable features in other markets, such as the Universal Tariff Obligation. Another member believed that P200 would not introduce a further cross-subsidy as it just reflects total costs.

 © ELEXON Limited 2006

One member believed that the Proposed Modification would have a **NEUTRAL** impact on the achievement of Applicable BSC Objective (c). He believed that the benefit of increased cost reflectively would be countered by the discrimination in treatment of different parties.

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 the Proposed Modification **WOULD NOT** better facilitate the achievement of Applicable BSC Objective (d). These members believed that the increased complexity and resultant costs of P200 would be detrimental.

One member was concerned that, for the proposed requirement to ensure F-factors are applied to any re-registration of any CVA BM Units, the 'policing' thereof by BSC Parties was contrary to efficient administration. Furthermore, he felt that the P200 proposal of allocation of some losses based on historic F-factor volumes was less efficient compared to current system where all losses are associated with actual metered volumes.

A **MINORITY** of members believed that the Proposed Modification **WOULD** better facilitate the achievement of Applicable BSC Objective (d). This member argued that the Proposed Modification would provide for better operation of the BSC arrangements as it would save costs of potential future Modifications.

A **MINORITY** of the Group believed that Applicable BSC Objective (d) was not relevant to the assessment of P200.

Summary

In deciding on whether P200 Proposed Modification better facilitates the achievement of the Applicable BSC Objectives overall, the Group considered BSC objectives (b) and (c) to be most relevant. Some members felt that P200 contained the same benefits for despatch as P198 and promoted competition through protection from windfall gains and losses. However, other members believed that the hedging scheme would counter the efficiency of P198 zonal transmission losses and that it was discriminatory. On balance the **MAJORITY** of the Group believed that the Proposed Modification **WOULD NOT** better facilitate the achievement of Applicable BSC Objectives. No members of the Group believed that P200 would better facilitate the BSC Objectives overall. Four members believed it had a neutral impact on the Applicable BSC Objectives.

5.2 Assessment of Alternative Modification against Applicable BSC Objectives

Table 2 – Modification Group's View of the Alternative Modification

Better facilitates Applicable BSC Objectives?	Compared with Proposed Modification	Compared with existing Code baseline
Yes	**Majority**	**None**
No	None	**Majority**
Neutral	Minority	Minority

5.2.1 Alternative Modification compared with Proposed Modification

The **MAJORITY** view of the Modification Group was that the Alternative Modification **WOULD** better facilitate the achievement of Applicable BSC Objectives (a), (b), (c) and (d) when compared to the Proposed Modification due to the addition of seasonal TLFs (one member believed it had a neutral impact on the Applicable BSC Objectives).

© ELEXON Limited 2006

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

The **MAJORITY** view of the Group was that that Alternative Modification **WOULD** better facilitate the achievement of Applicable BSC Objective (b) when compared with the Proposed Modification. The Group believed that the external TLF modelling and cost-benefit analysis exercises, that been conducted for P198, had demonstrated that seasonal TLF values would represent a better reflection of the actual behaviour of BM Units within Zones, provide a more accurate short-term signal to generators, lead to more efficient plant despatch, and thereby offer the greatest reduction in variable losses.

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 that Alternative Modification **WOULD** better facilitate the achievement of Applicable BSC Objective (c) when compared with the Proposed Modification. The Group believed that the results of the TLF modelling exercise had demonstrated that seasonal TLF values would be a more accurate allocation of variable losses than a single annual average. One member abstained.

5.2.2 Alternative Modification compared with current baseline

The Group considered that the same arguments that applied to Proposed Modification were applicable in the assessment of the Alternative Modification against the Applicable BSC Objectives (a), (b), (c) and (d) (see section 5.1).

Therefore, the **MAJORITY** of the Group believed that the Proposed Modification **WOULD NOT** better facilitate the achievement of Applicable BSC Objectives when compared with the existing Code baseline. Whilst the Group recognised that the application of seasonal TLFs in the Alternative Modification improved the Proposed Modification, these benefits were still outweighed by the arguments made for and against the Proposed Modification (see Section 5.1). No members of the Group believed that P200 Alternative would better facilitate the BSC Objectives overall. Four members believed it had a neutral impact on the Applicable BSC Objectives.

5.3 Implementation Date

The Modification Group agreed the following recommended Implementation Dates for P200 for the Proposed and Alternative Modifications:

- 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 P200 Assessment Procedure consultation, and details of the responses received can be found in Section 5.5 of the P200 Assessment Report in Appendix 3.

5.4 Legal Text

The Group reviewed the text for both the Proposed and Alternative Modifications and agreed that it delivered the solution developed by the Group. An explanation of the Group's legal text requirements can be found in Section 4 of the P200 Assessment Report in Appendix 3.

 © ELEXON Limited 2006

5.5 Interaction with P198

In accordance with the BSC Modification Procedures, P200 and P198 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 P200 Group noted that the P198 Group, by majority, had considered that both the Proposed and Alternative Modification would not better facilitate achievement of the Applicable BSC Objectives. The P200 Group agreed that it would be useful to indicate a preference between the P198 and P200, so that this could be taken into account by the Authority when making its decision. However, the Group were split on whether P200 would better facilitate the achievement of the Applicable BSC Objectives compared with P198.

6 RATIONALE FOR PANEL'S RECOMMENDATIONS TO THE AUTHORITY

6.1 Panel's Consideration of Assessment Report

The Panel considered the P200 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 9 of the P200 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 P200, 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 P200, 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 P200 was required, and that the Modification Proposal could proceed to the Report Phase.[4]

One Panel Member noted the view of the Proposer, as expressed within their Assessment Procedure consultation response, that they did not believe that P200 would better facilitate the achievement of the Applicable BSC Objectives compared with the existing Code baseline. This Member queried why the Proposer had not supported their Modification Proposal, and believed that the BSC Modification Procedures contained a process difficulty in that they required all proposals to be assessed separately against the existing baseline. The Member considered that this requirement made it difficult to give consideration to whether, within a set of related proposals such as P198, P200 and P203, one proposal might better facilitate the achievement of the Applicable BSC Objectives relative to another. BSCCo clarified that the view of the Proposer had evolved throughout the assessment of P200 such that their final view was that P200 would not be better than the existing baseline. Another Panel Member considered that this represented a natural

[4] 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 9 of the P200 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.

 © ELEXON Limited 2006

outcome of the Assessment Procedure, and that it would be for the Authority to assess all related proposals against each other. The Panel noted that it was required to assess P198, P200 and P203 separately on their own merits against the current baseline, but agreed that it would also be useful to record its preference between the proposals such that this could be noted by the Authority. Details of this preference can be found in Section 6.1.6.

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 P200 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 P200 as part of its decision-making process.[5]

The Panel made no further comments specifically on the P200 consultation responses. However, some of the Panel's discussion of the P198 consultation responses was also applicable to P200, 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

a) Proposed Modification

The **UNANIMOUS** provisional view of the Panel was that the Proposed Modification **WOULD NOT** better facilitate the achievement of the Applicable BSC Objectives compared with the existing Code baseline.

The majority of Panel Members did not support the introduction of an average zonal transmission losses scheme as proposed by P200, for the reasons which they had previously cited in relation to P198 (see Section 6.1 of the P198 Modification Report in Appendix 4). Although many of these Members supported in principle the idea of mitigating what they perceived as the windfall gains and losses which zonal TLFs would create for existing generation investments, they believed that the transitional hedging scheme proposed by P200 would only partly mitigate these effects. Some of these Members believed that the Proposed Modification would be discriminatory, as the benefit of the hedging scheme would only apply to existing generators and not to demand or new entrants. In addition, some Panel Members believed that fixing F-factor values for fifteen years on the basis of one year's historic data could also lead to inaccuracies in signals, and that the hedging scheme might therefore create its own windfall gains and losses. Other Members expressed concern regarding the cost and complexity of the scheme. Some Members stated that, whilst they did not support a zonal losses scheme, they believed that it would be contradictory to implement a version of such a scheme that hedged its own effects.

Some Panel Members believed that the Proposed Modification would better facilitate the achievement of Applicable BSC Objective (b), since these Members believed that it would generate the same marginal despatch signals as a non-mitigated losses scheme – thereby delivering a reduction in the level of losses as identified by the cost-benefit analysis. One Member noted that the effect of hedging in this area would therefore be different to phasing. However, these Members believed that the cost and complexity of P200, and/or the potential inaccuracy of the F-factors, would outweigh this benefit.

[5] http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16083_136_06.PDF

© ELEXON Limited 2006

b) Alternative Modification

i) Alternative Modification compared with Proposed Modification

The **UNANIMOUS** provisional view of the Panel was that the Alternative Modification **WOULD** better facilitate the achievement of the Applicable BSC Objectives when compared with the Proposed Modification.

All Panel Members believed that the use of seasonal TLFs would provide more accurate signals than those generated by annual TLF values – noting the results of the PTI modelling (which demonstrated the variability of TLFs between seasons) and the OXERA analysis (which identified higher savings in losses from the use of seasonal TLFs) in this area.

ii) Alternative Modification compared with Existing Code Baseline

The **UNANIMOUS** provisional view of the Panel was that the Alternative Modification **WOULD NOT** better facilitate the achievement of the Applicable BSC Objectives when compared with the existing Code baseline.

All Panel Members believed that the increased accuracy of a seasonal TLF calculation would not be sufficient to outweigh what they perceived as the negative effects of P200.

6.1.3 Provisional recommendation to the Authority

The Panel therefore agreed a **UNANIMOUS** provisional recommendation to the Authority that:

- The Proposed Modification **SHOULD NOT** be made; and that
- The Alternative Modification **SHOULD NOT** be made.

6.1.4 Implementation Date

The Panel provisionally agreed with the Group's recommendations regarding the Implementation Date for P200.

6.1.5 Legal Text

The Panel provisionally agreed that the draft legal text delivered the solutions for the Proposed and Alternative Modifications as set out in the P200 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 P200 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 P200 would not be better than P198, despite (or because of) the inclusion of a transitional hedging scheme (for both of these proposals, the Panel unanimously agreed that the Alternative Modifications would be better than their respective Proposed Modifications). Further details regarding the Panel's views concerning P198 can be found in the P198 Modification Report in Appendix 4.

© ELEXON Limited 2006

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 the terms used in this document can be found in Section 7 of the P200 Assessment Report in Appendix 3.

8 DOCUMENT CONTROL

8.1 Authorities

Version	Date	Author	Reviewer	Reason for Review
0.1	16/08/06	Justin Andrews/ Kathryn Coffin	Sarah Jones	For technical review
0.2	18/08/06	Kathryn Coffin	Interested parties	For industry consultation
0.3	dd/mm/yy	Justin Andrews	Sarah Jones	For technical review
0.4	dd/mm/yy	Justin Andrews	Change Delivery	For quality review
0.5	dd/mm/yy	Change Delivery	BSC Panel	For Panel decision
0.6	dd/mm/yy	Justin Andrews	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	04/08/06	2.0
2	Draft Modification Report for Modification Proposal P203 'Introduction of a seasonal Zonal Transmission Losses Scheme' ELEXON - Modification Proposal 203	BSCCo	18/08/06	0.2
3	P200 revised requirement specification ELEXON - Modification Proposal 200	BSCCo	30/06/06	2.0

© ELEXON Limited 2006

8.3 Intellectual Property Rights, Copyright and Disclaimer

This document contains materials the copyright and other intellectual property rights in which are vested in ELEXON Limited or which appear with the consent of the copyright owner. These materials are made available for you to review and to copy for the purposes of your establishment or operation of or participation in electricity trading arrangements under the Balancing and Settlement Code ("BSC"). All other commercial use is prohibited. Unless you are a person having an interest in electricity trading under the BSC you are not permitted to view, download, modify, copy, distribute, transmit, store, reproduce or otherwise use, publish, licence, transfer, sell or create derivative works (in whatever format) from this document or any information obtained from this document otherwise than for personal academic or other non-commercial purposes. All copyright and other proprietary notices contained in the original material must be retained on any copy that you make. All other rights of the copyright owner not expressly dealt with above are reserved.

No representation, warranty or guarantee is made that the information provided is accurate, current or complete. Whilst care is taken in the collection and provision of this information, ELEXON Limited will not be liable for any errors, omissions, misstatements or mistakes in any information or damages resulting from the use of this information or any decision made or action taken in reliance on this information.

 © ELEXON Limited 2006

APPENDIX 1: LEGAL TEXT

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

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

APPENDIX 2: PROCESS FOLLOWED

Copies of all documents referred to in the table can be found on the BSC Website at: P200 Modification Proposal – with the exception of Panel presentation slides which can be found at ELEXON - BSC Panel Meetings 2006, and the details of the P198/P200 industry education seminar which can be found at ELEXON - Diary and Event Archive.

Date	Event
21/04/06	Modification Proposal raised by Teesside Power Ltd
11/05/06	IWA presented to the Panel
12/05/06	First Assessment Procedure Modification Group meeting held
18/05/06	Requirements Specification issued for BSC Agent impact assessment. Request for BSCCo, Party/Party Agent impact assessments and Transmission Company analysis issued
25/05/06	BSCCo, BSC Agent and Party/Party Agent impact assessment, Transmission Company analysis response returned
31/05/06	Second Assessment Procedure Modification Group meeting held
15/06/06	Third Assessment Procedure Modification Group meeting held
21/06/06	Fourth Assessment Procedure Modification Group meeting held
30/06/06	Revised Requirements Specification issued for BSC Agent impact assessment. Request for BSCCo, Party/Party Agent impact assessments and Transmission Company analysis issued. Consultation document issued.
14/07/06	Responses received to revised impact assessment. Responses received to industry consultation
18/07/06	Fifth and final Assessment Procedure Modification Group meeting held
01/08/06	Cost-Benefit Analysis Data Correction Consultation issued
07/08/06	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

© ELEXON Limited 2006

ESTIMATED COSTS OF PROGRESSING MODIFICATION PROPOSAL[6]

Meeting Cost	£3,000 (based on sharing some meetings with P198)
Legal/Expert Cost	£3,500 (covering legal text support)
Impact Assessment Cost	£15,000
ELEXON Resource	115 Man days £39,500 (includes requirement for contract staff)

Note that these costs are unchanged from those provided in the Assessment Report. The Legal/Expert cost has been reduced by £25,000 from that provided in the IWA, due to the removal of the requirement for an external cost benefit analysis.

APPENDIX 3: ASSESSMENT REPORT

The P200 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 P200 Assessment Report can be found on the BSC Website at: P200 Modification Proposal.]

The Assessment Report includes:

- The conclusions of the Modification Group regarding the areas set out in the P200 Terms of Reference;
- Details of the Group's membership;
- A summary of the data analysis undertaken by the Group;
- The full results of the external TLF modelling exercise conducted by PTI;
- The full results of the external cost-benefit analysis conducted by OXERA;
- The full results of the Assessment Procedure impact assessments;
- 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 P200 Assessment Report.

APPENDIX 4: P198 MODIFICATION REPORT

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

[For the purposes of the Report Phase consultation, and the Panel's consideration of the P200 draft Modification Report, a copy of the P198 draft Modification Report can be found on the BSC Website at: ELEXON - Modification Proposal 198.]

[6] 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.

© ELEXON Limited 2006

APPENDIX 5: REPORT PHASE CONSULTATION RESPONSES

[To be attached following the Report Phase consultation.]

© ELEXON Limited 2006