Draft MODIFICATION REPORT for Modification Proposal P211
'Main Imbalance Price based on an Ex-Post Unconstrained Schedule'

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

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

Proposed Modification P211 seeks to amend the calculation of the "main" imbalance price such that when the market is short (NIV>0), System Buy Price (SBP) will be based on the least expensive Offers that the System Operator (SO) could have utilised on an unconstrained system. Conversely, when the market is long (NIV<0), System Sell Price (SSP) will be based on the least expensive Bids that the SO could have utilised on an unconstrained system. Price Average Reference (PAR) Tagging would then be applied to the new Ex-Post Unconstrained Schedule (EPUS) price stack to ensure that only the most expensive 500 MWh of Bids or Offers are used to set the main price. The 'reverse' price would remain unchanged.

No Alternative Modification has been put forward for consideration.

BSC PANEL'S RECOMMENDATIONS

Having considered and taken into due account the contents of the P211 draft Modification Report, the BSC Panel recommends:

- **that Proposed Modification P211 should not be made;**
- **an Implementation Date for Proposed Modification P211 of 6 November 2008 if an Authority decision is received on or before 28 February 2008, or 25 June 2009 if the Authority decision is received after 28 February 2008 but on or before 16 October 2008; 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 P211.

Please note that this table represents a summary of the full impact assessment results contained in Appendix 3.

Parties		Party Agents		BSC Agents		Other Agents	
Distribution System Operators	☐	Data Aggregators	☐	SAA	☒	Supplier Meter Registration Agent	☐
Generators	☒	Data Collectors	☐	FAA	☐	Unmetered Supplies Operator	☐
Interconnectors	☒	Meter Administrators	☐	BMRA	☒	Data Transfer Service Provider	☐
Licence Exemptable Generators	☒	Meter Operator Agents	☐	ECVAA	☐		
Non-Physical Traders	☒	ECVNA	☐	CDCA	☐		
Suppliers	☒	MVRNA	☐	TAA	☐		
Transmission Company	☒			CRA	☐		
				SVAA	☐		
				Teleswitch Agent	☐		
				BSC Auditor	☐		
				Profile Administrator	☐		
				Certification Agent	☐		

Sections of the BSC		
A	☐	
B	☐	
C	☐	
D	☐	
E	☐	
F	☐	
G	☐	
H	☐	
I	☐	
J	☐	
K	☐	
L	☐	
M	☐	
N	☐	
O	☐	
P	☐	
Q	☒	
R	☐	
S	☐	
T	☒	
U	☐	
V	☐	
W	☐	
X	☒	

Code Subsidiary Documents		Core Industry Documents		BSCCo		BSC Panel/Panel Committees		Other	
BSC Procedures	☒	Ancillary Services Agreement	☐	Internal Working Procedures	☒	Working Practices	☐	Market Index Data Provider	☐
Codes of Practice	☐	British Grid Systems Agreement	☐					Market Index Definition Statement	☐
BSC Service Descriptions	☐	Data Transfer Services Agreement	☐					System Operator-Transmission Owner Code	☐
Party Service Lines	☐	Distribution Code	☐					Transmission Licence	☐
Data Catalogues	☒	Distribution Connection and Use of System Agreement	☐						
Communication Requirements Documents	☐	Grid Code	☐						
Reporting Catalogue	☒	Master Registration Agreement	☐						
		Supplemental Agreements	☐						
		Use of Interconnector Agreement	☐						

1 DESCRIPTION OF MODIFICATION

This section outlines the solution for the Proposed Modification, as developed by the P211 Modification Group ('the Group') during the Assessment Procedure.

For a full description of the original Modification Proposal as submitted by EDF Energy ('the Proposer'), and the background to the proposal, please refer to the P211 Initial Written Assessment (IWA).

1.1 Current Arrangements

Under the current baseline, actions taken by the System Operator (SO) to balance Supply and Demand for a Settlement Period set the main Energy Imbalance Prices (System Buy Price (SBP) when the system is 'short' and System Sell Price (SSP) when the system is 'long').

The current methodology for determining system length (whether the system is 'long' or 'short') was introduced under Approved Modification P78 'Revised Definitions of System Buy Price and System Sell Price'. Overall system imbalance (i.e. Net Imbalance Volume or 'NIV') is currently determined by summing the Pre-Gate Closure trades (reflected in Balancing Services Adjustment Data or 'BSAD'[3]) with the Bids and Offers accepted by the SO. The system is 'long' when the volume of Bids and / or Relevant Balancing Services predominate and the system is 'short' when the volume of Offers and / or Relevant Balancing Services predominate.

The following information contributes to the calculation of the main Energy Imbalance Price:

- Actions taken within the Balancing Mechanism to increase the total energy on the system (Accepted Offers), or actions within the Balancing Mechanism to decrease the total energy on the system (Accepted Bids); and
- Relevant Balancing Services provided outside the Balancing Mechanism, represented via BSAD.

When the system is estimated by the method above to be short of energy, the main price (i.e. SBP as the price applied to imbalances in the same direction as the system) is based on the volume weighted average of the most expensive 500MWh[4] of priced balancing actions (accepted Offers and BSAD) remaining, following the application of the following rules:

- **De Minimis:** Individual accepted Bid and Offer Volumes below a defined threshold (1 MWh) are excluded from the price calculation completely. This approach is intended to remove 'false' actions created due to the finite accuracy of the systems used to calculate Bid and Offer Volumes;
- **Arbitrage:** Accepted Bids and Offers where no net energy has been delivered to the system but which have provided an overall financial benefit to the system are excluded from the price calculation completely (i.e. where the price of an accepted Offer Volume is less than the price of an accepted Bid Volume);
- **CADL:** Acceptance Volumes associated with Acceptances of short duration (below the Continuous Acceptance Duration Limit (CADL) currently 15 minutes) are treated as un-priced[5] in the price calculation;

[3] Note that BSAD data also includes a Buy Price Adjuster (BPA) and a Sell Price Adjuster (SPA) which are added to the relevant Main Price (SBP or SSP).

[4] This is known as the Price Average Reference (PAR) volume. PAR is currently 500MWh. When the system has excess energy (said to be 'long') then the main price (SSP) will be based on the volume weighted average of the most expensive 500MWh of priced balancing actions (accepted Bids and Energy BSAD) remaining following the application of the tagging mechanism rules. If the NIV is less than 500 MWh then no volumes will be PAR tagged.

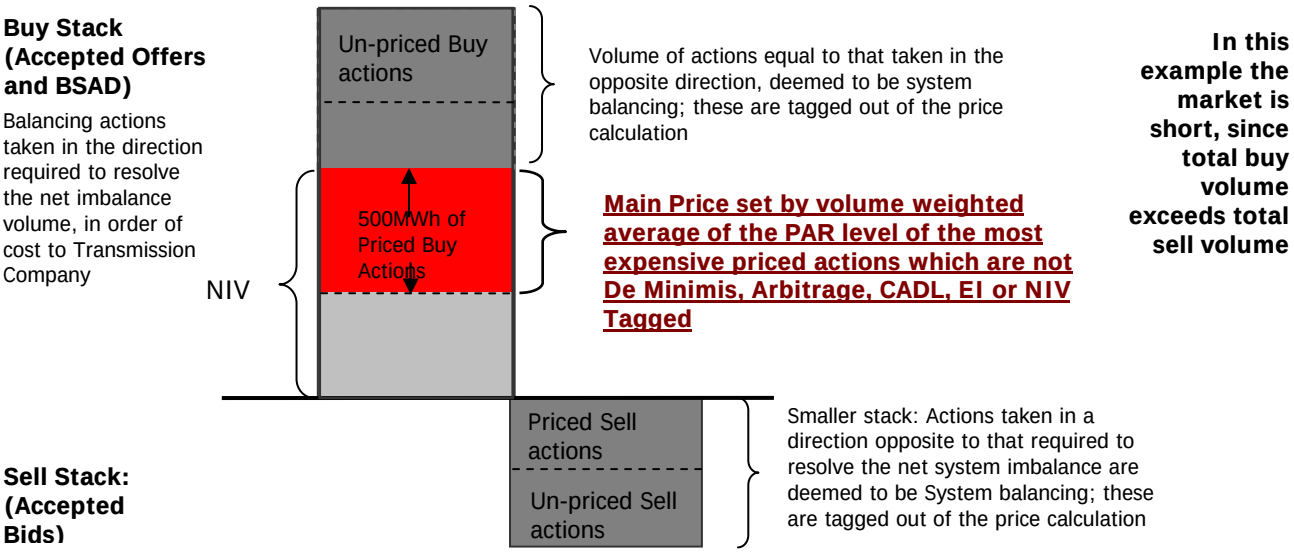
[5] Un-priced volumes contribute to the determination of which actions set the main Energy Imbalance Price, however the costs of these actions are not included in the main Energy Imbalance Price.

- **BSAD:** The SO determines whether Relevant Balancing Services will be treated as priced or un-priced. BSAD is calculated net[6] and represents both priced and un-priced Relevant Balancing Services in aggregate form;
- **Emergency Instructions:** On the determination of the SO, Accepted Bids and Offers associated with Emergency Instructions may be tagged as Excluded Emergency Acceptances and therefore treated as un-priced for the purpose of Energy Imbalance Price Calculation; and
- **NIV Tagging:** Following application of the rules outlined previously, the Net Imbalance Volume (NIV) tagging process is applied to determine which of the priced actions will be subject to PAR tagging.

These processes are collectively known as the 'tagging mechanism'. The de-minimis, CADL, emergency instructions and NIV Tagging functions are the processes to remove what are deemed to be system balancing actions from the main price.

In addition, trades undertaken on power exchanges feed into market prices provided by Market Index Data Providers (or a single provider, as it currently stands). The reverse Energy Imbalance Price (i.e. the price applied to imbalances in the opposite direction to the system) is based on the market price derived from data submitted by Market Index Data Providers.

Figure 1. Example of the Existing Arrangements Main Imbalance Price Calculation (Short System)



1.2 Proposed Modification

Under P211, the mechanism for calculating Energy Imbalance prices compares to the current baseline as follows:

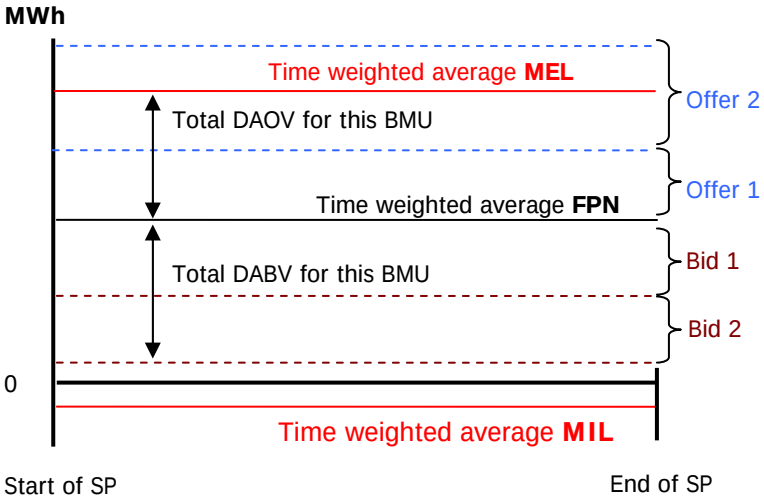
- Rather than using actions taken within the Balancing Mechanism to increase the total energy on the system (Accepted Offers), or actions within the Balancing Mechanism to decrease the total energy on the system (Accepted Bids), the information that contributes to the calculation of the main Energy Imbalance Price in each Settlement Period will be Deemed Available Offer Volumes (DAOV) and Deemed Available Bid Volumes (DABV) for each price band for each BM Unit which submits bid-offer volumes;

[6] This means that in any Settlement Period there can only be one non-zero volume of Energy BSAD (EBVA or ESVA), and one non-zero volume of System BSAD (either SBVA or SSVA).

- DABV and DAOV values in each period will be determined from the time weighted average Final Physical Notification (FPN) and the levels of submitted bid-offer bands capped by time weighted average Maximum Import Limit (MIL) and time weighted average Maximum Export Limit (MEL), where relevant. The FPN, MIL and MEL data are all sourced from submissions made under the Grid Code and for the purposes of this Modification, the BSC will use the Grid Code definitions;
- Thus, for each BM Unit (BMU):
    - The total time weighted average DABV cannot exceed the difference between the time weighted average MIL less the time weighted average FPN;
    - The total time weighted average DAOV cannot exceed the difference between the time weighted average MEL less the time weighted average FPN; and
    - Any volumes between time weighted average MEL and time weighted average FPN plus the sum of all positive numbered offer volume intervals for that BMU or between time weighted average MIL and time weighted average FPN less the sum of all negatively numbered bid volume intervals for that BMU, shall be deemed to be 'unpriced' and will not enter the EPUS stack.

This relationship of FPN, and MIL and MEL and the resultant volumes are shown in Figure 2.

Figure 2. Deemed Available Offer Volumes (DAOV) and Deemed Available Bid Volumes (DABV)



- The MIL and MEL used will be the latest available at the end of the relevant Settlement Period (and which apply to that Settlement Period for the purposes of calculating the time weighted average);
- The determination of Relevant Balancing Services provided outside the Balancing Mechanism, represented via BSAD, will not change;
- The existing process for determining whether SSP or SBP is the main Energy Imbalance Price (the existing NIV process) will not change;
- The existing process for determining the MWh size of the NIV (using accepted bids, offers and BSAD) will not change other than to remove De-minimis tagging. However, as the prices of actual acceptances making up NIV would not be used for the main Energy Imbalance Price calculation it

should be noted that the existing process should be simplified as described in the P211 Requirement Specification[7];

- A new stack will be built from collating the available Bids (DABV) and Offers (DAOV) plus Energy BSAD[8]. This stack will form the Ex-Post Unconstrained Schedule (EPUS);
- De-Minimis and Emergency Instruction tagging will not apply to the EPUS stack;
- EPUS Arbitrage tagging[9] will apply to the EPUS stack to remove any DAOV that are priced less than or equal to DABV. This process for EPUS Arbitrage tagging is the same as the current process for Arbitrage tagging except it is applied to the DABV and DAOV volumes instead of accepted Bid and Offer volumes;
- EPUS NIV tagging will be applied to the EPUS stack (after the EPUS Arbitrage tagging) to exclude the DABV, DAOV and BSAD that will not be required for determining the main Energy Imbalance Price such that:
    - When NIV is positive, starting from the least expensive, only priced buy volumes up to the volume of NIV are included; and
    - When NIV is negative, starting from the least expensive, only priced sell volumes up to the volume of NIV are included;
- EPUS PAR tagging will be applied such that a volume weighted average of the PAR volume portion of the most expensive[10] priced non-(EPUS)-tagged volumes will set the main price;
- The PAR volume will not change from the existing value of 500MWh;
- Transmission Loss Multipliers will still be used in the main Imbalance Price Calculation as currently;
- The Buy Price Adjuster (BPA) or Sell Price Adjuster (SPA) will be added to the relevant Main Price (SBP or SSP); and
- The method for calculating the reverse price will not change.

An example of how the main Energy Imbalance Price is calculated under the Proposed Modification is shown in Figure 3.

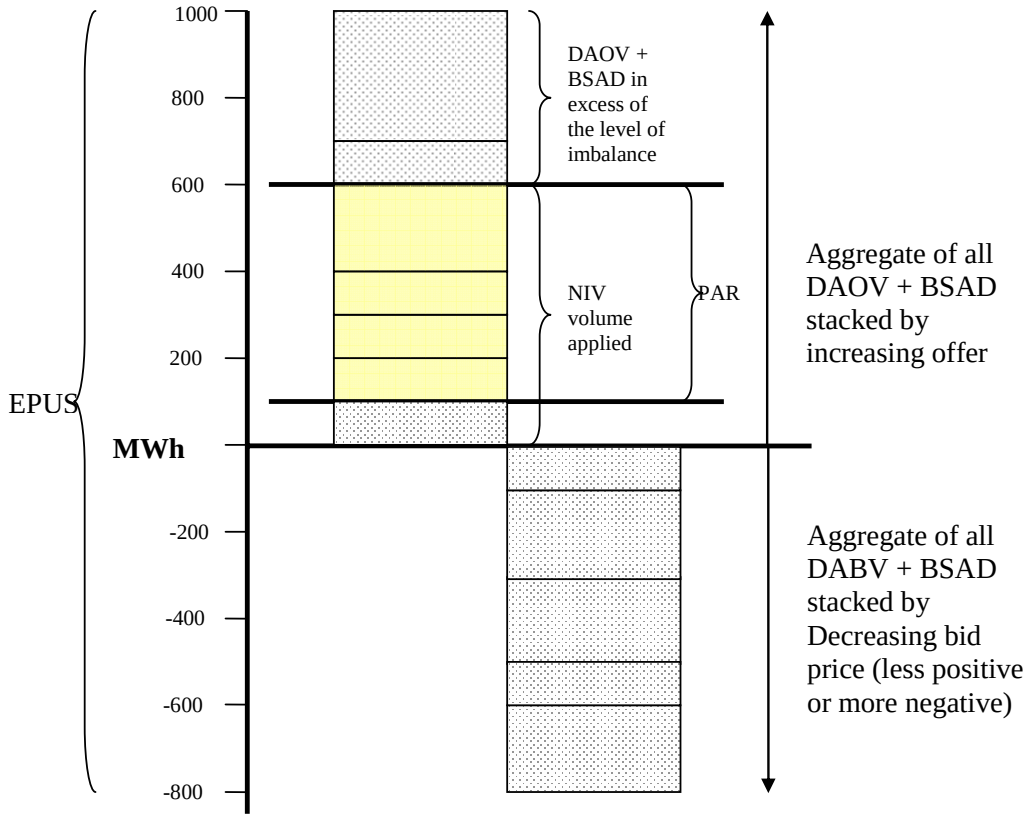
[7] This includes the removal of CADL tagging, De-Minimus tagging and Emergency instruction tagging. The P211 Requirement Specification can be found here:
http://www.elexon.co.uk/ChangeImplementation/modificationprocess/modificationdocumentation/modProposalView.aspx?propID=231

[8] Energy BSAD excludes System Buy Price Volume Adjuster (SBVA) and System Sell Price Volume Adjuster (SSVA) which are not to be included in the EPUS stack.

[9] The terms 'EPUS Arbitrage tagging', 'EPUS NIV tagging' and 'EPUS PAR tagging' are used here to differentiate from the tagging that occurs in the determination of the NIV and under the main Energy Imbalance Price calculation under the current arrangements.

[10] It should be noted that 'least expensive' should, in this context, be considered in relation to the benefit of the System. Offers are bought by the System for an increase in energy, thus the 'least expensive' will be the lowest priced Offer. Since Bids are paid to the System by Parties for a reduction in energy, the least expensive Bid will be the highest priced Bid. A negative Bid price will be expensive to the System, as the System is paying (rather than being paid) to reduce energy. Similarly, when using the term 'most expensive', it should be considered in this context.

Figure 3. Example of the P211 Arrangements Main Imbalance Price Calculation when Short



1.2.1 Background to the Proposal

It has been shown by the SO that the current main Energy Imbalance Price calculation includes actions taken by the SO for reasons considered to be 'energy plus' even though a number of the current tagging mechanisms are used to try to remove some of these. Recent documentation available in support of the current tagging mechanism deficiencies has been provided in the Approved Modification P205 'Increase in PAR volume from 100MWh to 500MWh' decision letter[11] and from within the Ofgem led Cash-out Review[12]. It should be noted that some Modification Group members believe that a sufficient level of materiality of this defect has not yet been established. 'Energy plus' actions are intended to encapsulate all those actions taken by the SO for more than just energy reasons. An 'energy plus' action might be taken for energy balancing reasons, but would also include actions taken for any one or more of the following reasons:

- Frequency response;
- Reserve creation;
- Intra half-hour demand balancing (including events such as TV pickup); and
- Constraint activities (including resolving locational issues).

The Proposer suggests that P211 would remove the impact of imperfections of the tagging mechanism on the main Energy Imbalance Prices. Thus Parties would be exposed to cash-out prices that are reflective of

[11] Available from Ofgem's website at:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=86&refer=Markets/WhlMkts/CompandEff/CashoutRev

[12] See:

- NGET presentation to Cash-out Review ' What is the Impact of Non Exclusive Energy Actions on Imbalance Pricing', 30 March 2007;
- Cash-out Review 2007 'An Independent Perspective', Nigel Cornwall, published 22 March 2007.

Ofgem documentation of the Cash-out Review can be found at:
http://www.ofgem.gov.uk/MARKETS/WHLMKTS/COMPANDEFF/CASHOUTREV/Pages/CashoutRev.aspx

the true costs of energy balancing the system (i.e. non 'energy plus' actions) and this would more appropriately target the costs of energy balancing the system. Additionally, it is suggested that liquidity in the short term market would increase as Parties are more likely to sell volume rather than using it to self-hedge. Finally, it is believed that P211 would simplify the current BSC arrangements by making it easier for both existing Parties and new entrants to understand the imbalance pricing mechanism. It is therefore suggested that these three points have a positive impact on 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".

As P211 would remove much of the complex tagging mechanisms, it is also put forward by the Proposer that this simplification will positively impact Applicable BSC Objective (d), "Promoting efficiency in the implementation and administration of the balancing and settlement arrangements".

The Proposer suggests that P211 will reduce the volatility and improve the predictability of the main Energy Imbalance prices, thus reducing the incentive for Parties to take a longer position into cash-out to avoid the risk of a high SBP. This will better facilitate Applicable BSC Objective (b) "the efficient, economic and co-ordinated operation of the Transmission System by the Transmission Company" by reducing the level of balancing required by the SO.

The Group discussed whether arbitrage tagging should be retained for the EPUS stack as this was not identified in the original proposal. It was agreed to include this as the Group felt that this would make the market more efficient by removing trades that would have otherwise been made prior to Gate Closure. Additionally, the Group concluded that retaining arbitrage tagging would limit the ability for price manipulation.

2 AREAS RAISED BY THE TERMS OF REFERENCE

The following areas were considered by the Modification Group during the Assessment Procedure for P211:

- Derivation of the Ex-Post Unconstrained Schedule;
- Impact on Energy Imbalance Prices;
- Cashflow Analysis;
- Incentives;
- Impact on Settlement; and
- Default Rules.

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

3 IMPLEMENTATION APPROACH AND COSTS

Due to the size of the changes required for P211 Proposed Modification it is recommended that P211 should form a complete Release on its own; no P211 cost benefits would be derived from the inclusion of other Change Proposals or Modifications in the same release as P211 (although there may be cost benefits for the other items included).

PROPOSED MODIFICATION IMPLEMENTATION COSTS[13]

[13] 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

		Stand Alone Cost	Tolerance
Service Provider[14] Cost			
	Change Specific Cost	£ 133,650	+/- 0%
	Release Cost	£ 51,850	+/- 0%
	Total Service Provider Cost	£ 185,500	+/- 0%
Implementation Cost			
	External Audit	£ 0	+/- 0%
	Design Clarifications	£ 9,275	+/- 0%
	Additional Resource Costs	£ 0	+/- 0%
	Additional Testing and Audit Support Costs	£ 5,000	+/-20%
	TOMAS changes	£ 50,000	+/-20%
Total Demand Led Implementation Cost		£ 249,775	+/- 10%

Port and Migrate Costs

Service Provider Cost	Port and Migrate[15]	£ 45,000	+/- 0%

ELEXON Implementation Resource Cost		231 man days £ 50,820	+/- 5%
Total Implementation Cost		£ 345,595	+/- 20%

a) BSC Agent Impact

Work required includes:

- Expand BMRA and SAA Settlement data checking functions to include MIL/MEL data.
- Defining a new database table to hold DAOV and DABV data.
- Modifying the F009 functionality to include P211 functionality for P211 effective Settlement Dates.

For SAA reporting, a new DTC version of the SAA-I014 flow will be defined. The SAA-I014 module will be modified so that for P211 effective Settlement Dates additional data reporting will be included in the report.

[14] BSC Agent and non-BSC Agent Service Provider and software costs.

[15] The Port and Migrate costs are an indicative cost related to Project Isis interaction. This cost covers the porting and migrating of the P211 changes from Tru-64 and Oracle 9i to HP-UX and Oracle 10g. This cost assumes that LogicaCMG is doing all calculations and also it is assumed that this work follows the main CVA Port and Migrate project. Note that the optional BMRA reporting was ignored for this indicative cost

Where a Bid-Offer Pair has associated DAOV or DABV data defined by the Settlement Calculation Process then this data will be reported against the Bid-Offer Pair. Some existing fields will not be reported for post-P211 dates as they will no longer be relevant.

The lead time is 26 weeks and all prices assume a November 2008 target release.

A copy of the full BSC Agent impact assessment for P211 can be found in the Assessment Report (within Appendix 3 to this document).

b) Transmission Company Impact

The Transmission Company will be required to modify systems receiving SAA data and business processes to cope with the new SAA-I014 variables. The initial cost estimate for implementing this P211 Proposed is approximately £80K with a lead time of approximately 7 months.

The Transmission Company impact assessment for P211 can be found in Appendix 3.

c) BSCCo Impact

ELEXON acceptance testing (4 weeks), new service provide acceptance testing (4 weeks) and go-live decision and deployment (2 weeks) will take a total of 10 weeks from the conclusion of the changes to the BSC Central Systems identified above (26 weeks).

Detailed impact on BSCCo can be found in Appendix 3

d) BSC Party and Party Agent Impact

As this Modification is a change to the Energy Imbalance Calculation, this is a significant change to one of the main tenets of the BSC Arrangements that will impact Settlement for all BSC Parties. Recipients of SAA reports (SAA-I013) will be affected by changes to the information provided. Additionally, Parties will be impacted by the change to sub-flow 1 of the Settlement Report (SAA-I014).

There were 6 responses to the Party Impact Assessment which ranged from no impact or cost to a Party who estimated that a number of internal systems would require updating at a cost of between £50,000 and £100,000 and take 6 months to implement.

Full copies of the Party and Party Agent impact assessment responses can be found in Appendix 3.

4 RATIONALE FOR MODIFICATION GROUP'S RECOMMENDATIONS TO THE PANEL

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

4.1 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 (b), (c) or (d) when compared to the current Code baseline, for the following reasons:

Applicable BSC Objective (b)

- Cost reflectivity will be reduced as the Proposed Modification moves away from what the SO actually did to resolve the imbalance on the system. Cost reflective Energy Imbalance Prices are essential to provide the correct incentives for Parties to balance. These costs should then be appropriately targeted on those who are out of balance. As P211 will reduce the degree to which the SO's costs

are reflected in Energy Imbalance Prices it follows that these costs will not be appropriately targeted and the incentives for Parties to balance will decrease. This in turn increases the actions required to be taken by the SO and increases the costs faced by the SO. This would be detrimental to the efficient operation of the GB transmission system;

- The Modification creates a trade-off where more cost reflective Energy Imbalance Prices are sacrificed in all Settlement Periods for removing a defect that has only been shown to occur from time to time. It is accepted that transmission constraints have an impact on the Energy Imbalance Price but there is currently a tagging mechanism to deal with these (even if it can be shown to occasionally be defective). The issue of transmission constraints should arguably be resolved in a different manner such that it is not at the expense of cost reflective prices;
- The increase in SO activities is in conflict with NETA principles in which it is assumed that it is more efficient for Parties to balance than the SO. With less incentives to balance then this is moving away from Parties balancing and puts this cost onto the SO;
- Parties will not respond appropriately in periods of system stress if the signals are distorted due to prices not being reflective of actual SO costs of balancing the system. If, on average, Parties expect a more benign Energy Imbalance Price due to the EPUS stack including volumes that the SO cannot feasibly access then they will make a rational decision to only trade in the forward market at a price lower than the forward price under the current arrangements. The reduced incentive to trade results in more imbalance and higher costs for the SO;
- Any plant loss post Gate Closure would be likely to require expensive actions to be taken by the SO and these are not accommodated for by the Proposed Modification. The dampened price signals would reduce short term incentives to trade out the imbalances and reduces the incentive to invest in reliable plant technologies which results in the potential for increased future plant loss which will increase costs to the SO as they will have to procure more reserve; and
- Plant that could have profitably sold its output in the forward market under the current arrangements would be more likely to reserve output for the balancing mechanism.

A minority of the Group stated that the Modification did better facilitate the objective for the following reasons:

- Prices will be more cost reflective because the proposal will remove the impact of system balancing actions which, it was argued, has a significant impact on the main imbalance price. The analysis also shows that the P211 prices do rise at times of system stress therefore retaining appropriate signals to balance; and
- There is a reduced incentive for Parties to go long on average. Therefore the actions the SO needs to take to balance the system will decrease resulting in lower costs and greater efficiency to balance the system.

Applicable BSC Objective (c)

- All Parties contribute proportionately to the costs of balancing via the Balancing Services Use of System (BSUoS) charge and those that are out of balance via SBP and SSP. The Proposal moves away from reflecting the costs incurred by the SO to resolve the net imbalance on the system. This results in a greater proportion of balancing costs being socialised across all Parties rather than being targeted at those out of balance. This cross subsidy will be detrimental to competition;
- There will be changes to Parties' behaviour based on the P211 arrangements. Parties would be able to take advantage of the rules that exclude dynamic parameters to influence the Energy Imbalance Price. Similarly, Parties may inadvertently impact (or, due to competition or market abuse issues be very wary of inadvertently impacting) the Energy Imbalance Price whenever they update their data.

This would create distortions in the Energy Imbalance Prices that would not reflect the true costs of balancing. As the forward price is driven by the Energy Imbalance prices this will create the wrong signals to the market and therefore hinder competition. Where any attempt to take advantage of the P211 rules occurs, this will be very difficult to track;

- Appropriate signals to the market are distorted if the costs of high priced plant being used to balance the system are not reflected in the Energy Imbalance Prices. This would occur when the EPUS stack contains many offers which the SO cannot actually use; and
- The prices will be benign most of the time with a decreased level of volatility. Thus there is less incentive to balance or trade.

A minority of the Group stated that the Modification did better facilitate the objective for the following reasons:

- It is simpler to understand encouraging new entrants as well as encouraging existing Parties to trade;
- Liquidity will increase as Parties are more likely to sell available volume in the forward market than hold it to self-hedge; and
- Parties will pay a better cost of energy imbalance and not a price that contains actions taken for system balancing reasons.

Applicable BSC Objective (d)

- It has not been proven that there is a case for change in that the perceived defect has been shown to occur but has not been shown to be a substantive issue. Therefore there is no justification for the costs of this change;
- P211 introduces a new and approximate arrangement for cash-out, there is no evidence that it would be administered more efficiently; and
- The current arrangements are based on a simple concept; to reflect the costs of the SO when balancing the system. P211 would move away from this simple concept.

A minority of the Group stated that the Modification did better facilitate the objective for the following reasons:

- Current actions taken by the SO for system balancing are impacting Energy Imbalance Prices and P211 provides a better reflection of the actions that could have been taken so the price is more cost reflective; and
- The Proposed solution is simpler for Parties to understand and for the industry to implement and operate.

One Group member additionally argued that potential issues arising from security of supply would not better facilitate the achievement of Applicable BSC Objective (a).

4.2 Implementation Date

The Modification Group agreed the following recommended implementation approach for P211:

- An Implementation Date for the Proposed Modification of 6 November 2008 if an Authority decision is received on or before 28 February 2008, or 25 June 2009 if the Authority decision is received after 28 February 2008 but on or before 16 October 2008.

If approved, P211 would apply to Settlement Runs and Volume Allocation Runs carried out in relation to Settlement Days on or after the Implementation Date. Settlement Runs and Volume Allocation Runs carried out in relation to Settlement Days before the Implementation Date would not be affected by P211.

4.3 Legal Text

The Modification Group reviewed the text and agreed that it delivers the solution developed by the Group.

The legal drafting can be summarised as follows:

- Section Q:
  - Remove provisions for Unpriced Emergency Acceptances; and
  - Clarification of MIL and MEL data sent to BMRA/SAA.
- Section T:
  - Convert MIL/MEL data to Point MIL/MEL and Period MIL/MEL;
  - Calculation of DAOV / DABV;
  - Remove CADL Tagging and De Minimis Tagging; and
  - Arbitrage tagging, NIV tagging and PAR tagging remain, but apply to DAOV/DABV not Bid and Offer Acceptances.
- Section X – resulting changes to Glossary, Table X-2, Table X-3.

5 RATIONALE FOR PANEL'S RECOMMENDATIONS TO THE AUTHORITY

5.1 Panel's Consideration of Assessment Report

The Panel considered the P211 Assessment Report at its meeting on 13 September 2007. 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 0, 5.3 and 5.4 respectively.

5.1.1 The defect and identifying an optimal price

The Panel noted that the Assessment Procedure representations were unanimous in accepting that the defect identified by the Proposer has been shown to exist in certain Settlement Periods. Additionally, they noted that there was varied view within the industry as to the materiality of this defect.

The Panel agreed that it is a difficult exercise to establish the impact of the defect on Energy Imbalance Prices[16]. One member noted that P211 prices are (on average) more benign (SBP will be on average 16% lower when the system is short) than under the current baseline. This compares to the National Grid analysis presented to the cash-out review that indicated that Energy Imbalance Prices are impacted by the defect in the range of approximately 0% to 7%. Therefore, when establishing what an optimal price would be, the P211 Energy Imbalance Prices might be considered to be the bottom of the potential range and the current baseline might be considered to be the top of the potential range in which an optimal price exists. The difficulty lies in establishing whether prices calculated under P211 or the current baseline are closer to that optimal price. A number of Panel members noted that there is probably no 'right' answer and that one

[16] This is due to the work that would be required by the System Operator to analyse all the actions that were accepted for each Settlement Period.

solution may be replacing one set of imperfections in the calculation of imbalance prices with another set. Any arrangements that tries to model the 'real world' is likely to suffer from certain defects.

5.1.2 Potential for Gaming

One Panel member stated their view that the potential for gaming is not as great as indicated by the majority of Modification Group and some respondents. The member believed that the potential for being discovered, due to active monitoring by the appropriate regulatory bodies and the resulting consequences of being discovered, would mean that the level of gaming is likely to be insignificant. Another member noted that the issue of gaming should be considered important as it is not necessarily easy to detect and prove and the member believed there was the potential for it to occur under P211. Additionally, this member believed that it is not necessarily clear that an action by a Party could be considered gaming. It may just be that their plant dynamics impact the Energy Imbalance Price, or it may be that the action can be justified by the market conditions at the time.

5.1.3 Dynamic Parameters

The Panel noted the Group's development of a potential Alternative that included dynamic parameters. The Panel agreed with the recommendation of the Group that such a solution, whilst having the intention to reflect actual plant dynamics, essentially collapses under its own complexity. An idealised solution, with dynamic parameters, would be a fully functioning ex-post unconstrained schedule, which created an optimised dispatch solution and took into account full plant dynamics. However, the Panel acknowledged that this was not simple to achieve, especially within a four month Assessment Procedure, due to the work and analysis that would be involved in defining this unconstrained schedule..

In relation to the comparison to the Irish Single Electricity Market (SEM) discussed in the Assessment Report, one member noted that the SEM solution is optimised over an entire day. With the existing half hourly market in the BSC, it would be difficult to apply dynamics to individual half hours, as most plant can not react in such discrete time periods. This member did not believe that a half hour market was long enough to facilitate the reduction in costs of production or to achieve accurate cost reflection.

5.1.4 Cost Reflectivity

The Panel noted that the Group and Assessment Procedure consultation respondents made arguments both for and against whether P211 was more cost reflective than the current baseline (although the majority view of both the Group and industry was that it would not be). One member noted that the Energy Imbalance prices are only a proxy for the true cost of energy balancing and therefore are meant to be an appropriate proxy for cost reflectivity.

One member queried the assumption made by many respondents and the Group, that if Parties are less likely to balance (due to less cost reflective prices), then it is correct to infer that there will be associated costs to the SO. The member noted that any such costs had not been quantified. The Transmission Company representative noted that the industry appeared to be educated on the impacts on SO costs, as it has been shown to occur that when Parties have less incentive to balance that this implicitly leads to an increase in SO costs in some form (for example, through Balancing Services Use of System 'BSUoS' or through increased reserve requirements). The Transmission Company representative pointed towards published Ofgem documentation on the SO income adjusting event for 2005/06 as evidence of how SO costs are impacted[17].

One member noted that there could be potential for inconsistency with direction from the Authority with regards to recent pricing related modifications and cost reflectivity. P194 'Revised Derivation of the 'Main' Energy Imbalance Price', which (in otherwise identical conditions) led to higher Energy Imbalance Prices was

[17] See 'National Grid Income Adjusting Events' page on the Ofgem Website for further information at: http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/NGIncAdj/Pages/NGInAdj2.aspx

approved by the Authority, whilst P211 has been shown to lead to more benign Energy Imbalance Prices with the majority of the industry believing these would be less cost reflective. The member believed that the industry would benefit from clear direction on this cost reflectivity issue.

5.1.5 Applicable BSC Objectives

The **MAJORITY** initial view of the Panel supported the majority view of the Group that the Proposed Modification **WOULD NOT** better facilitate the achievement of Applicable BSC Objectives (b), (c), and (d) when compared to the current Code baseline, for the following reasons:

Applicable BSC Objective (b)

- Energy Imbalance Prices will not reflect the costs of the SO in balancing the system. This will provide weaker incentives to balance and increase costs for the SO to balance on behalf of Parties.

A minority of the Panel believed that the Modification did better facilitate Applicable BSC Objective (b) for the following reasons:

- The Proposer's analysis on the defect was compelling and by addressing this defect, P211 should produce a more cost reflective price. This would provide the correct signals to balance and reduce the SO costs as the residual balancer. One Panel member noted that this was an area that was difficult to determine an impact and that Energy Imbalance Price calculation was a vastly complex area.

Applicable BSC Objective (c)

- The Proposed Modification moves away from what actions the SO took to resolve the imbalance on the system. Therefore, this would result in less cost reflective prices. Furthermore, costs would not be appropriately targeted on those Parties who do not balance. This is detrimental to competition as Parties will not face the correct incentives to trade in the forward market to avoid being out of balance; and
- There is potential that there is an increase in activity to seek to impact Energy Imbalance Prices due to the absence of dynamic parameters. This would be detrimental to competition as the resultant Energy Imbalance Prices would not reflect the SO costs of balancing the system and Parties would struggle to be able to understand why the Energy Imbalance prices have out turned at a level not consistent with market fundamentals. Any such activity may not be easy to detect.

A minority of the Panel believed that the Modification did better facilitate Applicable BSC Objective (c) for the following reasons:

- The EPUS would remove an identified defect with the current arrangements and would also make the arrangements simpler. This would encourage existing Parties to trade and also new entrants to the market. Maintaining the current baseline with a known defect might deter new entrants. One Panel member recognised that P211 was not a perfect solution, but believed it was a step in the right direction.

Applicable BSC Objective (d)

- A case had not been made for change. Whilst it is accepted that there is a defect in certain Settlement Periods, the P211 solution is a fundamental change to the arrangements and thus it is important to have evidence that the materiality of the defect is of a significant magnitude to warrant the change. The P211 analysis showed that SBP would be 16% lower than the current baseline when the system is short, however (dependant on the interpretation of the National Grid analysis given to the Cash-out Review) this showed that the defect was no larger than approximately 7%.

The Panel agreed that the Proposed Modification would have a neutral impact on Applicable BSC Objective (a).

Provisional recommendation to the Authority

By majority, the Panel therefore agreed an initial recommendation to the Authority that the Proposed Modification should not be made.

5.1.6 Implementation Date

The Panel agreed with the Modification Group's recommendation regarding the Implementation Date.

5.1.7 Legal Text

The Panel reviewed the draft text and agreed that it that it delivers the solution developed by the Group. The Panel agreed also minor changes to the Legal Text. Note that additional minor changes to the Legal Text that was reviewed by the Panel have also been made. Details of all minor changes are included in Appendix 1 to this document.

5.2 Results of Report Phase Consultation

This section to be completed following the Report Phase consultation.

5.3 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.

5.4 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.

6 TERMS USED IN THIS DOCUMENT

Other acronyms and defined terms take the meanings defined in Section X of the Code.

Acronym / Term	Definition
BMRA	Balancing Mechanism Reporting Agent
BSAD	Balancing Services Adjustment Data
DABV	Deemed Available Bid Volumes - Determined by the difference between the time weighted FPNs and time weighted MILs
DAOV	Deemed Available Offer Volumes – Determined by the difference between the time weighted FPNs and time weighted MELs
EPUS	Ex-Post Unconstrained Schedule – The stack of all Bids and Offers that are available to the SO. The EPUS is made up of the differences between FPN and MEL and FPN and MEL for all relevant BMUs.
FPN	The Final Physical Notification is the level of generation or demand that the BMU expects to generate or consume. Submitted as a ramped profile to National Grid prior to Gate Closure.
Main Energy Imbalance Price	The Energy Imbalance Price applied to imbalances in the same direction as the system.
MIL	Minimum Import Limit

MEL	Maximum Export Limit
MNZT	The minimum time in minutes that a BM Unit can operate at a non-zero level as a result of a Bid-Offer Acceptance
NISM	Notice of Inadequate System Margin
NIV	Net Imbalance Volume
PAR	Price Average Reference
PAR Tagging	The process of removing Acceptance Volumes from the calculation of Energy Imbalance Prices
PAR Volume	Price Average Reference Volume, the volume of actions that are used to set the Main Energy Imbalance Price
RCRC	Residual Cashflow Reallocation Cashflow
Reverse Price	The price applied to imbalances in the opposite direction to the system. This is based on the market reference price derived from data submitted by Market Index Data Providers (currently only APX).
RDR	Run Down Rate
RUR	Run Up Rate
SBP	System Buy Price
SEL	Stable Export Limit
SIL	Stable Import Limit
SO	System Operator
SSP	System Sell Price

7 DOCUMENT CONTROL

7.1 Authorities

Version	Date	Author	Reviewer	Reason for Review
0.1	14/09/07	Chris Stewart	David Jones / Justin Andrews	For technical review
0.2	18/09/07		BSC Parties and other interested parties	For consultation
0.3	dd/mm/yy			For technical review
0.4	dd/mm/yy			For quality review
0.5	dd/mm/yy	Change Delivery	BSC Panel	For Panel decision
1.0	dd/mm/yy	BSC Panel		For Authority decision

7.2 References

Ref.	Document Title	Owner	Issue Date
1	Ofgems Cash-out Review – Independent Consultants' Reports http://www.ofgem.gov.uk/MARKETS/WHLMKTS/COMPANDEFF/CASHOUTREV/Pages/CashoutRev.aspx	Ofgem	22/03/2007

2	National Grid Income Adjusting Event 2005/05 'Determination under Special Condition AA5A Part 2(i), paragraph 12(a) of National Grid Electricity Transmission plcs Transmission Licence in respect of Scottish Constraints and CAP047 - 171/06' http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/NGIncAdj/Pages/NGInAdj2.aspx	Ofgem	26/09/2006
3	P205 'Increase in PAR volume from 100MWh to 500MWh' - Decision Letter http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=86&refer=Markets/WhlMkts/CompandEff/CashoutRev	Ofgem	22/03/2007
4	P194 'Revised Derivation of the Energy Imbalance Price' – Decision Letter http://www.ofgem.gov.uk/Markets/WhlMkts/CompandEff/CashoutRev/Pages/CashoutRev.aspx	Ofgem	23/03/2006

APPENDIX 1: LEGAL TEXT

Legal text for the Proposed Modification is attached as a separate document, Attachment 1.

The Panel agreed the following minor changes at their meeting of 13 September 2007:

- Provide a more informative definition in Section X of 'Point MEL'. Add the words '*Point MEL data is a series of MW spot values derived by the SAA for the Maximum Export Limit submission with Notification Time and Notification Sequence Number r for spot times t for BM Unit i.*'
- Provide a more informative definition in Section X of 'Point MIL'. Add the words '*Point MIL data is a series of MW spot values derived by the SAA for the Maximum Import Limit submission with Notification Time and Notification Sequence Number r for spot times t for BM Unit i.;*
- Provide a more informative definition of 'Point Value Identification Number' by changing the definistion to 'A number used to differentiate two values of a point variable determined for the same spot time and established for Point FPN values in Section T3.1.2(a), and for Point Bid-Offer Volumes in Section T3.1.2(b), for Point MEL values in Section T3.1.2(d), and for Point MIL values in Section T3.1.2(e).'
- Cross-References in Annex T-1 3.1: Remove the references to (d) and (e) from (h), so (h) then refers only to (c) and (f). This makes the paragraphs consistent and eliminates redundant cross-references.

A final review of the Legal Text has led to the following additional minor revisions for clarity as compared to the Legal Text agreed by the Panel at their meeting of 13 September 2007. These have not been further reviewed by the Modification Group or the Panel:

- In Section T4.3A.2, the word "MEL" has been added before the word "submission" and the letter "s" in "submission" has been amended to a capital letter. MEL Submission has also been defined in Section X, Table X-2. (MEL Submission was already defined in Table X-3 but not in Table X-2);
- In Section T4.3B.2, the words "MIL Submission having the" have been added in the third line after the words "for the". MIL Submission has also been defined in Section X, Table X-2. (MIL Submission was already defined in Table X-3 but not in Table X-2);
- Section T4.3A.2 and T4.3B.2 refers to Adopted MEL and Adopted MIL. These are defined in Table X-3 but were not defined in Table X-2, Therefore these have been defined in Table X-2; and
- The references to "Maximum Export Limit" and "Maximum Import Limit" in paragraph 4.5.1 of Annex X-2 have been amended and replaced with "MEL Submission" and "MIL Submission" respectively.

APPENDIX 2: PROCESS FOLLOWED

Copies of all documents referred to in the table below can be found on the BSC Website at: http://www.elexon.co.uk/ChangeImplementation/modificationprocess/modificationdocumentation/modProposalView.aspx?propID=231

Date	Event
16/04/07	Modification Proposal raised by EDF Energy
10/05/07	IWA presented to the Panel
15/05/07	First Assessment Procedure Modification Group meeting held
22/05/07	Second Assessment Procedure Modification Group Meeting held

Date	Event
06/06/07	Third Assessment Procedure Modification Group Meeting held
13/06/07	Fourth Assessment Procedure Modification Group Meeting held
18/06/07	Request for Transmission Company analysis on Proposed Solution issued
18/06/07	Proposed Requirements Specification issued for BSC Agent impact assessment
19/0607	Proposed Modelling exercise undertaken
2/07/07	Party Agent Proposed impact assessment responses returned
2/07/07	Transmission Company analysis for Proposed returned
4/07/07	Fifth Assessment Procedure Modification Group Meeting held
18/07/07	Modelling Exercise Results
23/07/07	Sixth Assessment Procedure Modification Group Meeting held
24/07/07	Potential Alternative Modelling exercise undertaken
27/07/07	Potential Alternative Requirements Specification issued for BSC Agent impact assessment
8/08/07	BSC Agent Proposed impact assessment responses returned
8/08/07	Transmission Company analysis for Proposed returned
13/08/07	Seventh Assessment Procedure Modification Group meeting held
15/08/07	Issue Consultation Document
21/08/07	Potential Alternative Modelling results
29/08/07	Eighth Assessment Procedure Modification Group meeting held
13/09/07	Assessment Report presented to the Panel
18/09/07	Draft Modification Report issued for industry consultation
1/10/07	Deadline for Report Phase consultation responses to be returned
11/10/07	Draft Modification Report to be presented to the Panel
TBC	Final Modification Report issued to the Authority for decision

ESTIMATED COSTS OF PROGRESSING MODIFICATION PROPOSAL[18]

Meeting Cost	£2,750
Legal/Expert Cost	£5,000

[18] 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

Impact Assessment Cost	£10,000
ELEXON Resource	160 man days £50,070

Note that this has increased from the figures quoted in the IWA by 30 man days of ELEXON resource. This is primarily due to the additional analysis required by the Group for two potential Alternatives and the drafting of the potential Alternative Legal Text.

APPENDIX 3: ASSESSMENT REPORT

The P211 Assessment Report can be found on the BSC Website at:
http://www.elexon.co.uk/changeimplementation/ModificationProcess/modificationdocumentation/modProposalView.aspx?propID=231

The Assessment Report includes:

- The conclusions of the Modification Group regarding the areas set out in the P211 Terms of Reference;
- Details of the Group's membership;
- The full results of the Assessment Procedure impact assessment; and
- Full copies of all responses to the Assessment Procedure consultation.

APPENDIX 4: REPORT PHASE CONSULTATION RESPONSES

To be attached following Report Phase consultation