

Meeting name	Panel
Date of meeting	13 September 2007
Paper title	Interim Report for P212
Purpose of paper	For Decision
Synopsis	This paper sets out a summary of the progress of the P212 Modification Group, the initial consultation and proposed way forward for the further assessment of P212. The Panel is invited to agree the way forward and revised timetable.

1 Introduction

- 1.1 In May 2007 the Panel considered the Initial Written Assessment for P212 'Main Imbalance Price based on Market Reference Price' and agreed to submit P212 to a four month Assessment Procedure. This timetable would allow for parallel Assessment with P211.
- 1.2 P212 seeks to replace part of the current Energy Imbalance Price methodology with an alternative method for determining the 'main' Energy Imbalance Price. The main Energy Imbalance Price is that paid by Parties who are in imbalance in the same direction as the system. The Proposer suggests that Energy Imbalance Prices are significantly polluted and that the calculation is too complex. P212 proposes that the main Energy Imbalance Price should be the market price increased by a percentage [X%] when the system is short, or the market price decreased by a percentage [Y%] when the system is long. As the parameters X and Y were not specified in the Modification Proposal the Modification Group (the 'Group') was tasked with defining how these should be set.
- 1.3 The Panel asked ELEXON to provide monthly verbal updates for P211 and P212 to track progress. ELEXON has provided verbal updates on behalf of the Group and highlighted the discussions arising from the Modification Group and their difficulty in arriving at an agreed solution.
- 1.4 At the August Panel Ofgem made a presentation on cash out, included within which were observations of the progress of P212, and suggested some further analysis they wished to see undertaken (see minutes of meeting 130). Additionally Ofgem confirmed that the additional areas highlighted by them for further cash out review discussions should not distract the Group from their current Modification work. After some discussion the Panel agreed that the Assessment Phase should be extended by two months to allow for further analysis on P212 and that the Group may wish to consider looking at prices arising from different fixed percentage premium/discounts on a market price. The Panel requested an interim report on P212 for the September meeting. Nevertheless the Group was urged to contain its process and analysis to assessing the impact of the proposed solution.
- 1.5 This interim report provides a high level summary of the discussions to date and findings of the Modification Group. The detailed solutions, as described in the Consultation document (Attachment A) and results of the initial Consultation (Attachment B) are included for reference. Also attached to this paper are the data analysis carried out by the Group (Attachment C), the proposed way forward agreed by the Group (Attachment D) and the revised Assessment timetable (Attachment E).

2 Progress of Modification Group to Date

- 2.1 There have been nine meetings of the Modification Group. Originally P211 and P212 were being considered by the Modification Group on the same day (meetings 1 to 5), however as the Modifications progressed it became clear that it was more beneficial to hold the meetings on separate days. This allowed for greater time to discuss one Modification and removed any potential for confusion arising from discussions on specific solutions.
- 2.2 The Modification Group have addressed the areas set out in their Terms of Reference as follows:
- 2.2.1 **Determination of System Length:** The Proposer highlighted that determining system length using Net Imbalance Volume (NIV) may need to be changed, for example using the difference between total notified contract volumes and a measure of Metered Volumes in any half hour instead (Total System Energy imbalance Volume 'TQEI'). The Group compared NIV against TQEI to see how often NIV and TQEI indicated different system direction. It was established that from 1 April 2006 to 31 March 2007, 2.6% of Settlement Periods (that is 452 out of a potential 17,520 Settlement Periods) produced different signs for NIV as for TQEI. However, of those 452 Settlement Periods, 52% were when NIV was under 10MWh and only 3% were when NIV was over 100MWh. Additionally, 45% of the 452 Settlement Periods were in the Off-peak period for 11pm until 6:59am. The Group could not identify any other means than NIV for determining system length in prompt timescales as NIV represents what the SO had to do in real time to balance the system. The Group therefore concluded that NIV was a good estimate of TQEI and because NIV is available in prompt pricing timescales it should be retained as the method for determining the length of the system. Additionally, as the prices of actual acceptances making up NIV would not be used for the Main Imbalance Price calculation, the Group noted that the existing methodology for determining NIV should be simplified.
- 2.2.2 **Determination of Default Rules:** The Group was asked to determine the default price for the main Energy Imbalance Price to replace the current methodology for any circumstances where the Market Index Definition Statement (MIDS) volume thresholds are not reached. The Group analysed Settlement Periods that had defaulted to identify whether the previous Settlement Period was a good proxy for what the market price would have been had the liquidity threshold been reduced from 20MW to 0MW. The results identified that it did not always, however, as it was generally in low priced periods that the liquidity threshold was generally not met and the pound value of the difference is generally low, using the price in the previous Settlement Period provided a reasonable default rule. No other options for default prices were identified. The Group asked whether any changes can be made to the MIDS but were advised that any changes were out of scope for the Proposed Modification. However, the Group could provide a recommendation to the Panel that the MIDS should be reviewed should P212 be approved by the Authority.
- 2.2.3 **The Value of the Percentage Premium Discount:** This has been the area of the Assessment that has dominated the majority of the discussion. The Group developed three options based on a fixed, variable or dynamic percentage values. In arriving at these options the Group considered the French market but did not feel there were sufficient parallels between the markets to warrant further work. The Group discussed the validity of any historical data modelling exercise but the majority have felt this to be less relevant given the expected significant changes in behaviour that would arise from this fundamental shift in how prices would be calculated. Finally the Group has struggled to conceive how a 'pure' energy price can be calculated; especially one that is simple in its design because to remove the perceived defect arguably requires a detailed assessment of the actions being taken within each half hour. One member suggested an Alternative in which unmatched Bids and Offers on the Power Exchanges are used to form a price curve from which a

price for resolving NIV (as currently determined) can be established and the price could be set using these offers. The Group believed that there may be merits in the concept proposed but noted it involves a fundamental shift in the arrangements which would have large impacts on the SO and Parties. It should therefore not be assessed as part of this modification due to it impacting areas far beyond those intended by the P212 change. The Group did believe that such a concept may benefit from further consideration outside of P212. The options for the Proposed Modification solution developed by the Group are listed below.

- 2.2.3.1 **Option 1 (Fixed Percentage):** This option takes the simplest form of a single fixed value that would be applied to the Price. The Group discussed whether the 5% should be used or whether different or additional values should be assessed. A strong view was put forward that the value is arbitrary and therefore 5% is as good as any. In the absence of agreement of an appropriate percentage premium or discount, the 5% value was adopted for the solution and historical analysis was undertaken utilising this value. The Group has only sought implementation costs for this option from the BSC Agent.
- 2.2.3.2 **Option 2 (Variable Percentage):** This option uses historic analysis to derive variable values to be applied to different periods (e.g. on and off peak) and different values for System Buy Price and System Sell Price. The solution also contained a mechanism for revising these prices and suggested these could be revised by the Panel using an agreed methodology. The Group has discontinued this solution based on the feedback from industry, as described in section 4.
- 2.2.3.3 **Option 3 (Dynamic Percentage):** Option 3 seeks to create a dynamic percentage value for the premium or discount to be set ex-post. This dynamic percentage could differ for when the system is short (the premium) and when the system is long (the discount). The Group had not concluded whether the dynamic percentage would vary in accordance with one of the following;
- actual outturn NIV in each Settlement Period; or
 - some measure of System stress in each Settlement Period (for example Outturn System Operator Balancing Mechanism Cashflow (CSOBM)); or
 - the difference between metered demand volumes and total Maximum Export Limit (MEL).
- 2.2.3.4 The Group sought views on all three options in a consultation document drafted in advance of the last Panel meeting to see if the industry had a view on which way P212 should develop. As a result of the consultation responses, remaining timetable and proposed way forward (discussed in Section 5 of this paper), the Group has agreed to progress with option 1. Some Group members strongly felt that option 3 should be pursued in parallel. Concern was expressed about the amount of time assessing both options would take, noting that the Group did not have a complete solution for option 3 at the conclusion of the last P212 meeting. One Group member agreed to prepare a detailed solution for option 3 and present for review by correspondence to the Group before the next meeting.

3 Data Analysis for Option 1 (Fixed 5%)

- 3.1 It was noted to the Panel in August that the Group had conducted historical analysis on the impact of historical prices for the 5% premium/discount. The Panel asked to be provided with the analysis. This is included as Attachment C. Section 1 contains the analysis for NIV versus TQEI described in 2.2.1, section 2 looks at historic price versus Market Price, section 3 contains analysis of the default rules described in 2.2.2, section 4 compares the historic main price versus and

Market price plus 5% and section 5 looks at the resultant Residual Cashflow Reallocation Cashflow (RCRC) from this. Finally section 6 looks at some trading data from APX.

For otherwise identical conditions, P212 Proposed Option 1 generally significantly decreases Energy Imbalance Prices (System Buy Price 'SBP') as compared to the current baseline and this was demonstrated throughout the whole period of analysis (Figures 10 and 11 of Attachment C). When the system is short the SBP will, on average (in under otherwise identical conditions) lead to a 38.8% decrease in live SBP. The maximum decrease was one a £352/MWh decrease of P212 Option 1 price below the live price. Similarly, this will increase SSP by an average of 31% over live SSP with a maximum increase of £134/MWh (Table 1 of Attachment C).

- 3.2 In turn P212 will decrease the RCRC (Figure 15 of Attachment C). Some members of the Group noted that under P136 'Marginal Definition of the 'main' Energy Imbalance Price', P137 'Revised Calculation of System Buy Price and System Sell Price' and P194 'Revised Definition of the Main Energy imbalance Price', the impacts of RCRC on incentives to balance had been well documented. It was those members' belief that analysing RCRC could be considered of little value as it is a side effect of the Settlement calculations.
- 3.3 The Group looked at when trades are made and the value of the trades made by analysing historic data from APX. It can be seen that half of trades are made approximately within 4 hours of Gate Closure (Figure 17). The Group also attempted to see what the trading activity was on days of system stress and randomly selected days. The Group could not draw any significant conclusions from these other than if the trades were greater than 5% above market prices they would be unlikely to be taken by a Party acting rationally. The point made in 2.2.3 of this paper was also reiterated at this stage – that historic analysis is difficult to apply in this case as it is believed that P212 would lead to significantly different behaviour on the APX exchange.

4 Consultation Document

- 4.1 The Group considered the responses to the initial P212 Assessment consultation, the key themes are summarised below, the full Group considerations will be presented within the P212 Assessment Report. Generally the responses did not produce many new arguments to those discussed previously by the Group. The full set of responses is included as Attachment B for reference.
- 4.1.1 *What do you believe is the aim of imbalance prices under the BSC?* The most common view of respondents was that these should reflect the costs incurred by the System Operator (SO) in balancing the system and targeting those costs on those Parties that give rise to the imbalance. Four respondents expressed the view that Energy Imbalance Prices should ensure Parties contract bilaterally and others stated that they should create an incentive to balance.
- 4.1.2 *How could you demonstrate a measure of success that a Modification has better achieved the aim you have identified in Question 1?* Parties who believed prices should reflect the costs incurred by the SO felt this should be the measure (although there remains disagreement across the industry as what is included within these costs). Other respondents suggested measuring Net Imbalance Volumes before and after the introduction of P212 to observe whether the level of balancing improves. (This would require a view to be established on what an efficient level of balancing should be). A final suggestion was to determine if the price reflects 'energy' only SO actions although a measure to do this was not suggested.
- 4.1.3 *Do you have a view of the extent/impact of the perceived defect identified under P212 (and any link to the defect under P211)?* The responses reflected the feedback provided under P211. In

general whilst there is agreement that the imbalance price has been shown to be impacted by system actions the industry and Group retain opposing views on the significance of this impact. Similarly, whilst it is universally recognised that the arrangements are complex, opposing views are held as to whether that complexity is an issue, between those that perceive that it restricts competition and those that believe it is an appropriate level of complexity and not a barrier to entry.

- 4.1.4 *What are your views on 'simplicity' versus 'cost-reflectivity' on the calculation of the main imbalance price?* A strong theme in the responses was that cost reflectivity in prices should not be sacrificed for simplicity. However it was clear that smaller or non-vertically integrated Parties prefer simplicity.
- 4.1.5 *Do you believe the fixed percentage (Proposed Option 1 - specifically a fixed percentage of 5%) would better facilitate the achievement of the Applicable BSC Objectives when compared to the current Code baseline?* The majority of respondents did not feel this solution better facilitated the applicable objectives. Key arguments against suggested the price was not cost reflective of SO actions taken to balance, would make prices benign changing incentives to balance and would create a cross subsidy through BSUoS charges. A small number of respondents suggested the solution does better meet the objectives as it was simpler, removed the current cross subsidy on Parties who found it more difficult to balance and helps remove the system actions from the price.
- 4.1.6 *Do you believe the variable percentage (proposed option 2) would better facilitate the achievement of the Applicable BSC Objectives when compared to the current Code baseline?* Only one respondent felt this option was better than the baseline. The majority of arguments were as stated in 4.1.5, although those that felt a fixed price was better argued that a price based on historic data was penal due to the pollution within historic prices.
- 4.1.7 *Do you believe the dynamic percentage determined ex-post (proposed option 3) would better facilitate the achievement of the Applicable BSC Objectives when compared to the current Code baseline?* The majority of respondents again restated the arguments outlined in 4.1.5 and again only a small number of respondents felt it would better facilitate.
- 4.1.8 *What is your order of preference of Options 1, 2 and 3 for forming the Proposed Solution?* Generally respondents who did not feel the solutions better facilitate the objectives chose not to express a preference. However options 1 and 3 received some support, option 1 for its simplicity and that it could provide an incentive to balance and option 3 as it is an ex-post price and could be linked to NIV. Some argued that option 3 was more likely to reflect the activities of the market than option 1 (although some respondents with this view also expressed that it was still not better than the current baseline).
- 4.1.9 *Do you have any views on how these solutions will influence market participants' balancing behaviours and any subsequent impact on the SO? Specifically, how would a fixed percentage of 5% affect behaviour?* and *Do you have a view on the impact of the three identified Proposed Options with regards to whether these will lead to an increase or decrease in the SO costs of balancing the system?* Both these questions elicited similar responses so are summarised here. Half of the respondents argued that the SO would be required to take a greater number and magnitude of actions as Parties would have less incentive to balance. A few respondents suggested that trades would only be taken if the price was within the 5%. A small number of respondents felt there would be an incentive for Parties to balance rather than go long and in fact the number and magnitude of actions required by the SO would be reduced.

- 4.1.10 *Do you have any views on how market participants' balancing behaviours would adjust as the percentage increases from 5%?* Eight respondents suggested that as the percentage increases the incentive to balance becomes greater. Two respondents argued that trading in the forward market at levels outside the percentage value would cease no matter what level it was set at. Additionally it was commented that, at some level, the percentage would change from understating the costs of balancing the system on average to overstating them on average. However, this would still not reflect the SO costs of balancing the system on a Half Hourly basis. Six respondents suggested 5% was an appropriate level to retain sufficient incentives to avoid imbalance.
- 4.1.11 *Do you agree with the Groups view that the pricing value/methodology should only be changed by a modification? (Section 2.3 final paragraph)?* The majority of respondents agreed with the Group.
- 4.1.12 *Do you believe there are any other solutions that the Modification Group has not identified and that should be considered?* One response suggested a market for energy imbalance within Gate Closure where NGT cannot trade energy imbalance in the APX, however the Group suggested that this solution needed to be worked up in much greater detail and brought forward as a separate Modification. One suggestion was, because the respondent felt the defect was due primarily to transmission constraints, to seek to understand how these constraints enter Energy imbalance Prices and then form a mechanism for tagging these out. This has also been suggested as part of the P211 consultation and may merit further discussion in a different forum. However, it would not address the simplicity defect stated by P212. A further suggestion was made that analysis of different fixed percentages be undertaken. A few respondents indicated that there were other solutions but chose not to describe what these were.
- 4.1.13 *Are there any further comments on P212 that you wish to make?* A number of further comments were made and one respondent included a detailed attachment to demonstrate why they felt P212 prices could not be cost reflective. Comments reflected discussions held under P211 and P212 by the Group and a few respondents made statements regarding assessing fundamentals and analysis without providing a way forward for how the Group could resolve their concerns. The Group noted a number of similar comments from a few respondents criticising the Group for spending too long discussing the defect and failing to identify a benchmark. The Group noted that these comments were made without providing any detailed suggestions for how to move forward and that the industry responses themselves had reflected the difficult discussions the Group had had. Any Party can of course make people with the relevant expertise available to the Modification Group process or attend and contribute to the discussions.

5 Further Assessment

- 5.1 At the last P212 meeting ELEXON presented a paper to the Group (Attachment D) outlining a proposed way forward for the extended Assessment for P212 based on discussions between ELEXON and National Grid (who would be required to provide supporting analysis). This paper drew on the suggestions made by the Panel and Ofgem from the presentation and subsequent discussion held at the August Panel meeting. It is suggested that this analysis is more beneficial than further historic price analysis akin to that contained in Attachment C.
- 5.2 The proposed way forward seeks to conduct two types of analysis on the potential impacts of calculating a price using the P212 methodology. The analysis is:

- 5.2.1 **Scenario analysis on participant behaviour:** This is where a number of different theoretical scenarios are investigated to determine what would be rational participant behaviour if an imbalance price is set using a P212 solution, and therefore what might be the likely outcome in terms of cash-out prices. Such scenarios will be constructed from a simplified representation of the market. For example, there are 6 participants for which an assumption regarding their different positions in the market is made, e.g. long/short combined with different lengths of market. See section 3 of Attachment C for more details; and
- 5.2.2 **P212 impact on Market, Settlement and balancing costs analysis:** This is a high level investigation into how P212 impacts on the overall performance of participants, BSC Settlement and the System Operator, in particular the affect on balancing costs. It is proposed that using P212 calculated prices from historic data as a starting point the Modification Group would determine, at a high level, the relative impacts on participants' positions in the market, NIV, energy balancing costs and actions taken by the System Operator. This could also be iterated using different levels of assumed P212 prices, possibly derived from the results of the scenario analysis.
- 5.3 The proposed way forward was agreed by the Group and three members volunteered to provide support to validate the scenarios that ELEXON develops.
- 5.4 The Group agreed that this analysis should be conducted for Option 1, using a fixed 5% value. There was some debate over whether the analysis should consider other fixed percentages, however the Group could not conclude what percentages should be applied. ELEXON therefore agreed to provide historic prices using varying percentages to present to the next meeting, whereupon the Group could agree if any other percentages should be analysed. However it was noted that there would be a limited number of percentages that could be analysed given the time remaining.
- 5.5 The revised timetable for the further two month Assessment is included as Attachment E. The timetable is based on assessing a single solution (Option 1 – Fixed percentage). If the Group produces and agrees an Option 3 solution that it also wishes to assess then additional meetings will be required and there is a risk that the level of assessment that can be undertaken by ELEXON, the Group and National Grid could be limited by having two options.

6 Recommendations

- 6.1 The Panel is invited to:
- a) NOTE the contents of this interim report; and
 - b) ENDORSE the process being followed by the Group and the revised timetable.

Chris Stewart

Change Delivery

020 7380 4309

List of attachments

Attachment A – P212 Initial Consultation
 Attachment B – P212 Initial Consultation Responses
 Attachment C – P212 Data analysis
 Attachment D – Proposed Way Forward

Attachment E – Revised P212 timetable