



**P212 Additional analysis:  
Note to Modification Group meeting Thursday 30<sup>th</sup> August 2007**

## **1 Introduction**

At the BSC Panel meeting on the 9 August 2007, a verbal update was given on the current status of the assessment of Modification Proposal P212. The Panel requested that additional analysis be performed and therefore that an extension to the current timetable was necessary to undertake this analysis. They determined, with the agreement of Ofgem, to grant a two month extension to the P212 timetable to allow this further analysis. Therefore, the Assessment Report would be presented to the November Panel meeting.

They also requested that an interim report be presented to the next scheduled Panel meeting containing a plan for the progression of P212 and the analysis on the impact of setting the margin at 5%.

This note sets out the proposed scope and approach of the additional analysis. The aim of this analysis is to ensure that P212 can be fully evaluated by the Modification Group and industry/interested parties. It also seeks to provide Ofgem with a comprehensive set of analysis to aid their process in the determination of P212. ELEXON has drafted this note and discussed the scope and approach with National Grid and Ofgem.

## **2 Scope**

Two approaches are proposed as follows:

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 under the three options suggested (fixed, variable and dynamic percentages), 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 for more details; and
2. P212 impact on Market, Settlement and balancing costs analysis: This is a high level investigation into how P212 (for each option) 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 (for each option) 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. See section 4 for more details. This could also be reiterated using different levels of assumed p212 prices, possibly derived from the results of the scenario analysis.

## **3 Scenario analysis**

The aim of the scenario analysis is to determine the likely behaviour of participants when acting rationally under a P212 imbalance price setting mechanism. A number of scenarios would be constructed to identify the various behaviours.

### Construction of each Scenario

It is proposed that each scenario would be based on:

- a) A small number of participants potentially split by type of participant, e.g. large generator, large supplier, small generator, small supplier and non physical trader (number and split to be determined) and System Operator;
- b) Long or short market length (assuming participants ability to correctly predict this), including a typical period of system stress;
- c) Long or short position of the various participants; and
- d) Assumption on the current APX price, and therefore participants' expectations regarding the likely P212 cash-out price under each option (fixed 5%, variable<sup>1</sup> and ex-post dynamic<sup>1</sup>).

### Analysis of the likely behaviours of participants

Once the scenarios have been constructed and agreed, the Modification Group would determine the likely behaviour of each type of participant under each scenario. For example, how would a large generator seek to operate in a long market when their initial position is long and given their rational expectation of a P212 imbalance price and the expected rational behaviour of other participants in the scenario?

This analysis would also seek to identify any 'gaming' opportunities or potential 'improper' influences of the market price and hence the P212 imbalance price.

ELEXON would draft a number of potential scenarios, supporting assumptions and provide a 'strawman' for the likely behaviour of participants. These would then be reviewed by the Modification Group and each scenario would undergo a 'walkthrough' by the Group.

## **4 P212 Impact analysis**

This is a high level investigation into the impact of P212 imbalance prices on:

- a) Performance of market participants, such as overall position long/short;
- b) BSC Settlement including NIV (mean and standard deviations), RCRC;
- c) Impact on System Operation costs including balancing costs and reserve creation costs;
- d) The impact these changes in SO costs would have on BSUoS costs and cost distribution; and
- e) The impact these changes in SO costs might have on SO behaviour, including trading in the forward market.

This investigation would require as an input a high level view of how P212 prices would look under the three options identified by the Modification Group. The Modification Group would need (based on consideration of the responses to the recent P212 consultation) to determine the required parameters for each of the options<sup>2</sup>:

Option 1: fixed Percentage at 5%;

Option 2: Variable percentage. Premium/Discount and Day/Night split; and

Option 3: Dynamic ex-post percentage by NIV. Starting percentage and how this varies with NIV, price band.

It is proposed that historical analysis of prices is performed, using April 06-March 07 data, to construct the likely P212 imbalance prices for each of the above options. These prices would

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<sup>1</sup> This would require the Modification group to determine the percentages and split for the variable option and the percentage and variance by NIV for the ex-post dynamic option.

<sup>2</sup> Note that in its consideration of the consultation responses the Modification Group may alter or remove one of the three options proposed so far.

then form the input to determine the various impacts, as shown in the assessment scheme diagram in Appendix A.

ELEXON would first construct the P212 prices based on the options agreed by the Modification Group. The Group will need to establish an intuitive estimate of how participant's position bias and balancing performance will change under P212. For example, it may be expected that P212 prices are more benign thus a participant will, on average, reduce their average long position by z%. Further, their investment in forecasting their position reduces by x% leading to a y% increase in forecast error). The Group will then, with input from System Operator, be able to identify the various impacts on participants, Settlement and balancing costs.

## **5 Way forward**

It is proposed that, on behalf of the Group, ELEXON with support from the System Operator will construct the various scenarios and produce initial proposals for the analysis on the P212 impacts. ELEXON will also list the assumptions underpinning the above analysis. The Modification Group, through a series of meetings, would then walkthrough each of the scenarios (Approach 1) and additionally assess the high level impacts of P212 (Approach 2).

**The Modification Group is invited to approve the scope and approach of the additional analysis.**

Appendix A: Assessment Scheme for P212 impact analysis: Example with fixed 5% option (iterative process)

