31/004

Meeting name	BSC Panel
Date of meeting	18th October 2001
Paper Title	INTERIM REPORT: P12 REDUCTION OF GATE CLOSURE FROM 3.5 HOURS TO 1 HOUR
Purpose of Paper	For Decision
Synopsis	Modification Proposal P12 seeks the movement of Gate Closure from 3.5 hours to 1 hour ahead of real time. This paper presents the set of criteria that the Modification Group proposes should be used in assessing the merits of the Modification. The criteria focus on the potential impact of the Modification on trading, system management and the cost of implementation. The Panel is invited to consider and agree the criteria.

1. BACKGROUND

1.1 Modification Proposal P12 ('the Modification') was submitted on the 9th May 2001 by Damhead Creek Ltd. The Modification seeks to move Gate Closure from 3.5 hours to 1 hour ahead of real time. The rationale given for this change is that it will reduce imbalance risk and increase market liquidity.

1.2 A Modification Group ('the Group') was established to provide the relevant expertise and resources to consider the Modification. The Modification subsequently progressed through the Initial Assessment and Definition phases of the Modification process to establish its scope and potential impact.

1.3 At the BSC Panel ('the Panel') meeting of the 26th July, the Definition Report produced by the Group was considered[1]. The Panel endorsed the Group's recommendation to submit the Modification to a 9-month Assessment Procedure. The extended period was agreed in order to provide operational experience of the winter period when typically the transmission system is under greater stress. It was agreed that an Interim Paper be presented at the Panel meeting on the 18th October 2001 and an Assessment Report at the meeting on the 14th March 2002.

2. PURPOSE OF THE PAPER

2.1 This paper forms the first step of the Assessment Procedure. The aim of which, as directed by the Panel, is to establish a set of criteria that will enable the Modification to be assessed against the applicable BSC Objectives during the remainder of the Assessment Procedure.

2.2 This paper proposes a set of assessment criteria, methods to analyse the potential impact of the Modification on those criteria, and a timetable for the analysis.

2.3 By necessity, the quantitative analysis proposed is based on use of historical data generated under the current market design. Accurate prediction of how market participant behaviour would

[1] For the Definition Report see: http://www.elexon.co.uk/ta/modifications/modsprops/P012/P12_DR.pdf

change were the Modification implemented is not possible. Owing to this unavoidable constraint, quantitative analysis of the best historical data available is proposed wherever possible, and qualitative analysis of participant opinion established through consultation where it is not.

3. ASSESSMENT CRITERIA

3.1 Under the Code, the 'Balancing Mechanism Window Period' is defined as, in relation to a particular time, the period from that time to the end of the Settlement Period for which Gate Closure has most recently occurred. Currently this period varies from between 4 hours and 3.5 hours. Implementing the Modification would reduce this period to between 1.5 hours and 1 hour. This represents a significant change to the operation of the market. Several areas of potential impact have been identified:

(a) forecasting accuracy of output and demand at Gate Closure;

(b) 'market liquidity' (i.e. volume of trading);

(c) exposure to energy imbalance risk;

(d) number of generating plant able to participate in the Balancing Mechanism (BM);

(e) level and volatility of energy imbalance prices; and

(f) cost of the System Operator's balancing actions.

3.2 Three assessment criteria are proposed to test the potential impact of the Modification against the Applicable BSC Objectives. Throughout the Assessment Procedure, findings will be regularly reviewed by the Group and, where material, communicated to the Panel via an interim report.

4. IMPACT ON TRADING (CRITERION 1)

4.1 Central to assessment of the Modification is its impact on trading. Indeed, the Proposer believes that the improved forecasting accuracy and reduced imbalance risk that will result will increase liquidity in short-term markets. On the other hand, concerns have been expressed that shortening the Balancing Mechanism Window Period might increase the absolute level and volatility of energy imbalance prices by reducing the plant able to participate in the BM. To assess the impact on trading, answers to three closely related questions will be sought.

(a) *Would the accuracy of generation and demand forecasting at Gate Closure improve?* Greater forecasting accuracy would, all other things being equal, enable contracts to better match actual prediction and consumption and therefore, potentially reduce the imbalance risk faced by market participants.

(b) *Would market liquidity improve?* Taking advantage of any improvement in forecasting accuracy would require sufficient liquidity in short-term markets so that trading against the improved information is possible.

(c) *What would be the impact on energy imbalance prices?*[2] More volatile and/or extreme imbalance prices would act to increase the imbalance risk faced by participants – and counteract any risk reduction gained through improved forecasting accuracy.

4.2 The analysis will be quantitative and based on historical data generated under the current BSC. Appendix I contains details of the proposed analysis and the data to be used.

5. IMPACT ON SYSTEM MANAGEMENT (CRITERION 2)

5.1 A crucial consideration in the assessment of this Modification is its potential impact on the management of the transmission system. Currently, the System Operator (SO) uses the BM for the majority of its balancing actions – reducing the period within which the BM is open could have an impact on the cost of balancing actions and the mechanisms through which those actions are taken. To assess the impact on system management, the SO will be asked to investigate and report on the following issues:

(a) *Would security of supply be affected?* Any improvement in the trading environment should not come at the expense of security of supply.

(b) *Would the competition in the BM be affected?* It is possible that fewer generators would have the necessary dynamics to participate in a shorter BM, which could thereby reduce competition and increase prices in the BM.

(c) *Would the cost of balancing the system be affected?* There is a strong possibility that the SO would take a larger proportion of balancing actions outside the BM. New types of balancing services contracts would have to be devised and then procured (i.e. additional contracting mechanisms would be required to enable services to be procured prior to the balancing period).

(d) *Would the SO's ability to comply with operational standards, and the cost of such compliance, be affected?* Compliance with operational standards, such as frequency and voltage standards, is crucial to the quality of supply.

5.2 These questions will be posed to the Transmission Company as part of the impact assessment commissioned from them. After the Panel's decision on the proposed assessment criteria, the Group will establish what feedback, if any, the Transmission Company can provide prior to the winter period. Any feedback will be reviewed by the Group and, where material, communicated to the Panel via an interim report.

6. COST-BENEFIT ANALYSIS (CRITERION 3)

6.1 The final criterion against which the Modification will be assessed is value for money. The various costs and benefits associated with implementation of the Modification will be established through the foregoing analysis, impact assessments and consultation with relevant parties. The Group identified the following potential costs:

[2] Analysis of the behaviour of imbalance prices will be based on the algorithm as modified by Modification Proposal P18a.

(a) Cost 1: changes to Party systems

(b) Cost 2: changes to Transmission Company systems

(c) Cost 3: development of new balancing services contracts

(d) Cost 4: changes to Central Service Agent systems

(e) Cost 5: changes to ELEXON systems

6.2 Implementation timescales will also be identified through the consultation and impact assessments.

6.3 The Group identified the following potential benefits:

(a) greater forecasting accuracy

(b) increased market liquidity

(c) reduced imbalance risk

6.4 These potential benefits will be difficult to quantify and opinions will be sought through consultation to complement the findings of the analysis produced for the first criterion (i.e. "Impact on Trading").

7. IMPLEMENTATION

7.1 The time scale for implementation of the Modification will be consulted on specifically with Parties, the Transmission Company and the Central Service Agent(s). It is clear that both system changes and changes to the balancing services contracts used by the Transmission Company would be required to implement the Modification. However, it is unclear which will require the longest lead-time. For example, depending on the nature and format of the contracts, there may be a significant negotiating period to sign up a sufficient number of parties.

8. STATISTICAL UPDATE

8.1 As requested by the Panel, this paper contains an update on the statistics provided by the Transmission Company during the Definition Procedure (see Appendix II). The update reveals that there has been little change to the timing, duration and number of Bid Offer Acceptances (BOAs). Whilst, there has been a slight drop in the average number of BOAs per hour, their average duration has remained constant. There has been a slight increase in the percentage of BOAs with duration greater than an hour, and a slight drop in the percentage of BOAs with duration that is 'taken to Gate' (i.e. that last for the entire Balancing Mechanism Window Period).

9. RECOMMENDATIONS

9.1 The Panel is invited to:

(a) CONSIDER the Assessment Criteria proposed in this paper; and

(b) ENDORSE that the Assessment Procedure is conducted against these criteria.

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List of enclosures

Appendix I: Proposed Analysis for Criterion 1
Appendix II: Statistical Update
Appendix III: Proposed Timetable

APPENDIX I: PROPOSED ANALYSIS FOR CRITERION 1

The impact of the Modification on forecasting accuracy will be estimated through the following analysis and using the following data:

(a) comparison of the SO's national demand forecasts at different times prior real time;

(b) comparison of FPNs and an estimate of MEL adjusted FPNs at 1hour ahead of real time;

(c) comparison of BOA adjusted FPNs and metered volumes; and

(d) consultation[3] with all BSC Parties on the likely impact

The impact of the Modification on market liquidity will be estimated through the following analysis:

(a) a review of the number and timing of contract notifications during the period from 24 to 3.5 hours ahead of real time; and

(b) consultation with all BSC Parties on the likely impact.

The impact of the Modification on imbalance prices will be estimated through the following analysis:

(a) establishing the subset of Bids and Offers, including their price and volume, available from 1 hour ahead of real time until the end of the relevant Settlement Period.

[3] The Group will establish the set of questions contained in the consultation questionnaire after the Panel's decision on the proposed assessment criteria.

APPENDIX II: STATISTICAL UPDATE

The Transmission Company, as requested, provided the following update on the statistics it provided during the Definition Procedure:

BOA* Headline Statistics for Period 27th March to 30th September	
Average BOAs (i.e. per hour)	20.1 **(-0.4)***
Average BOA duration	48 minutes **(no change)**
Percentage of BOA durations greater than 60 minutes	27% **(+1)**
Percentage of BOA durations taken to Gate	1.9% **(-0.4)**

** where BOA stands for 'Bid Offer Acceptance'*

*** where bold numbers in brackets indicate change from data covering the period 27th March to 27th June**

As before, the Transmission Company added the following qualifications to the data supplied:

- The analysis does not give any volume-weighting to the BOAs, and such weighting is unlikely to be available within the timescales of the Assessment Procedure;
- It is believed that volume-weighted statistics would illustrate that early and lengthy BOAs are taken to bring the system close to balance whilst the smaller volume, more frequent and shorter notice BOAs are taken to manage frequency control;
- Since the Balancing Mechanism (BM) has been predominantly "long" thus far, it has not be necessary to purchase significant numbers of generators onto the system;
- It is believed that the statistics would show a larger weighted volume of BOAs spanning the majority of the Gate Closure period during periods of shortage in the BM; and
- The analysis takes no account of data assimilation, BOA selection and EDL preparation times – because these times are not captured by any Transmission Company systems.

APPENDIX III: PROPOSED TIMETABLE

ID	Task Name	Duration	Start	Finish
1	Panel decision on Assessment Criteria	0 days	18 Oct	18 O
2	Modification Group Meeting	1 day	24 Oct	24 Oct
3	DLIAs commisioned	0 days	25 Oct	25 Oct
4	Transmission Company DLIA Preparation	87 days	25 Oct	22 Feb
5	Parties DLIA Preparation	87 days	25 Oct	22 Feb
6	Central Service Agent DLIA Preparation	26 days	25 Oct	29 Nov
7	HLIAs commissioned from Parties	0 days	25 Oct	25 Oct
8	Parties HLIA Preparation	26 days	25 Oct	29 Nov
9	Consultation issued to parties	0 days	25 Oct	25 Oct
10	Parties Consultation	26 days	25 Oct	29 Nov
11	Modification Group Meeting	1 day	05 Dec	05 Dec
12	Modification Group Meeting	1 day	27 Feb	27 Feb
13	Assessment Report Issue to Panel	1 day	08 Mar	08 Mar
14	Panel Meeting	0 days	14 Mar	14 Mar