

February 2003

**ASSESSMENT REPORT**  
**MODIFICATION PROPOSAL P109 –**  
**A Hedging Scheme for Changes to TLFs in**  
**Section T of the Code**

**Prepared by the P109 Modification Group on  
behalf of the Balancing and Settlement Code Panel**

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The Gas and Electricity Markets Authority	Ofgem
Each BSC Panel Member	Various
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## 1 SUMMARY AND RECOMMENDATIONS

### 1.1 Recommendations

On the basis of the analysis, consultation and assessment undertaken in respect of this Modification Proposal P109 during the Assessment Procedure, the P109 Modification Group (P109MG) recommends that the BSC Panel should:

- (a) AGREE that Proposed Modification P109 should be made;**
- (b) AGREE a provisional Implementation Date for Proposed Modification P109 of 1 April 2004 where an Authority decision is received by 14 April 2003. Where an Authority decision is received after this date, but before 18 August 2003, the provisional Implementation Date should be 1 August 2004.**
- (c) AGREE that Proposed Modification P109 be submitted to the Report Phase in accordance with Section F2.7 of the Code; and**
- (d) AGREE that a draft Modification Report be issued for consultation and submitted to the Panel Meeting on 13 March 2003.**

The rationale for the recommendation is summarised in Section 1.3. However, the Panel asked to note that the recommendations were made on the basis of a majority view amongst Modification Group members and that a substantial minority believed that Proposed Modification P109 should not be made.

### 1.2 Background

Modification Proposal P109 'A Hedging Scheme for Changes to TLFs in Section T of the Code' ('P109') was submitted by British Energy on 1 November 2002.

#### 1.2.1 Modification Proposals P75, P82 and P85

P109 was raised during the final stages of the assessment of Modification Proposals P75 'Introduction of Transmission Losses' ('P75') and P82 'Introduction of Transmission Losses on a Average basis' ('P82'). Both proposals sought the introduction of zonal transmission losses, albeit based on different methodologies. P75 proposed half-hourly 'marginal' Transmission Loss Factors (TLFs) calculated on an ex-post basis, whereas P82 proposed annual 'scaled' TLFs calculated on an ex-ante basis<sup>1</sup>.

The Transmission Loss Factor Modification Group ('TLFMG') assessed these two proposals, and during the Assessment Procedure Modification Proposal P85 'A Phased Implementation Scheme for Changes to TLF in Section T of the Code' ('P85') was raised by British Energy. However, P85 was subsequently withdrawn on the understanding that the proposed phasing scheme would be considered as part of the P75 and P82 Assessment Procedure.

The TLFMG considered the phasing scheme proposed by P85, known as 'F-Factor Phasing', which was based on the same concept as P109 – the application of a constant historic TLF to a fixed proportion of a BM Unit's metered volume for 15 years. In addition, the TLFMG considered an alternative phasing scheme, known as 'Beta Phasing, which would phase in the full effect of zonal transmission losses over time through the application of a multiplicative factor to TLFs.

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<sup>1</sup> The difference between 'marginal' and 'scaled' being that 'scaled' TLFs would be multiplied by a factor of 0.5 such that heating losses alone would be differentiated on a zonal basis.

The TLFMG recommended Beta Phasing to the Panel as part of Alternative Modification Proposals P75 and P82, rather than F-Factor Phasing. Despite a perception that F-Factor Phasing would promote 'competition'<sup>2</sup> through the protection of existing investment from zonal transmission losses, it was deemed by the majority of the TLFMG to be 'inefficient'<sup>3</sup> due to its administrative complexity.

On 17 January 2003, the Authority determined that P82 should be made.

### **1.2.2 Modification Proposal P109**

P109 retains the basic concept of 'F-Factor' phasing, addressing a perceived lack of efficient signals for long-term investment due to the risk of a centrally mandated change in Transmission Loss Factors (TLFs). However, P109 refined the basic concept by seeking to address the issues associated with inclusion of SVA-registered BM Units and the perception that the proposed hedging scheme would be prohibitively complex to administer.

### **1.2.3 Initial Written Assessment**

The Panel considered the P109 Initial Written Assessment ('IWA') at its 14 November 2002 meeting. The IWA proposed that P109 be sent directly to the Report Phase with a recommendation that it should not be made. The IWA had stated that the underlying concept had already been considered by the TLFMG and deemed not to better facilitate Applicable BSC Objectives within the context of P75 and P82. The Panel, however, determined that P109 be submitted to a three-month Assessment Procedure because it believed that the issues associated with P109 had not been exhaustively considered. In particular, the Panel considered that potential governance issues existed associated as P109 appeared to be an anticipatory Modification Proposal. An Interim Report was requested for the December 2002 Panel meeting to consider these potential governance issues.

### **1.2.4 Interim Report**

A Modification Group combining expertise in transmission losses and governance, the P109MG, was established to complete the Assessment Procedure. The P109MG established Terms of Reference for its initial assessment, and produced an Interim Report on 6 December 2002. The Interim Report was considered by the Panel on 12 December 2002, and the Panel agreed with the report's conclusion that no governance issues existed and that the P109 Assessment Procedure was within the *vires* of the Code<sup>4</sup>. The Panel agreed that the Assessment Procedure should continue and that an Assessment Report be presented to the Panel on 13 February 2003.

### **1.2.5 Assessment Procedure Consultation**

A consultation document, including a worked example and set of consultation questions, was issued on 13 January 2003, with a response deadline of 24 January 2003. Fifteen responses (53 Parties) were received<sup>5</sup>. Seven respondents (18 Parties) supported the Modification Proposal and six respondents (32 Parties) indicated that they did not support the Modification Proposal. The remaining two respondents (3 Parties) did not indicate any preference.

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<sup>2</sup> 'Competition', in this context, refers to competition as described in Applicable BSC Objective (c) - '[P]romoting 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'.

<sup>3</sup> 'Inefficient', in this context, refers to efficiency as described in Applicable BSC Objective (d) - '[P]romoting efficiency in the implementation and administration of the balancing and settlement arrangements'.

<sup>4</sup> A summary of the conclusions of the Interim Report is provided in Section 4.2.1 of this report.

<sup>5</sup> A summary of consultation responses is provided in Section 9 of this report.

All consultation responses received are attached as Annex 2 of this document, and a summary is provided in Section 9.

### 1.2.6 Assessment Procedure Impact Assessment

In parallel with the consultation exercise, the P109MG requested impact assessments from Parties, affected BSC Agents and the Transmission Company (Annexes 3, 4 and 5).

## 1.3 Rationale for Recommendations

A narrow majority of the P109MG believed that P109 would better facilitate achievement of the Applicable BSC Objectives. Therefore, the P109MG recommends that the Panel agree that P109 should be made. However, a substantial minority of the Group was of the opinion that P109 would not better facilitate the Applicable BSC Objectives.

The P109MG believed P109 would have an impact on the achievement of the following Applicable BSC Objectives:

- Applicable BSC Objective B: 'The efficient, economic and co-ordinated operation by the Transmission Company of the Transmission System.'
- Applicable BSC Objective C: 'Promoting effective competition in the generation and supply of electricity and (so far as is consistent therewith) promoting such competition in the sale and purchase of electricity.'
- Applicable BSC Objective D: 'Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.'

The principal argument in favour of implementation of P109 was as follows. Achievement of Applicable Objectives B and C would be better facilitated through the provision of a more stable investment environment, coupled with the retention of the benefits provided by the locational signals resulting from P82. Limiting exposure of existing investment to variable transmission losses and providing protection against potential future changes in the allocation of transmission losses would increase the efficiency of long-term investment in generation and supply. As consequence, investment in the Transmission System would be more efficient. In addition, the reduced risk faced by industry as a result of this more stable environment would decrease the cost of capital, reducing barriers to entry. Moreover, the benefits of this reduction in risk would outweigh the implementation costs of P109 – therefore, achievement of Applicable BSC Objective D would not be compromised.

The principal arguments against implementation of P109 were threefold. First, P109 would reduce the benefits introduced by P82 through a reduction in the accuracy of the allocation of transmission losses and by diminishing the locational signals of the scheme. Therefore, Applicable BSC Objectives B and C would be undermined. Second, the purported benefits resulting from the perceived reduction in risk introduced by P109 would be outweighed by increased variability in 'Transmission Loss Multipliers' (TLMs)<sup>6</sup>. Thereby undermining BSC Objective C. Finally, BSC Objective D would be undermined owing to the reduction in efficiency of the settlement arrangements resulting from the cost and complexity of administering P109.

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<sup>6</sup> 'Transmission Loss Multipliers' ('TLMs') are the multiplicative factor applied to metered volumes in Settlement to allocate transmission losses.

## 2 INTRODUCTION

This Report has been prepared by ELEXON Ltd., on behalf of the Balancing and Settlement Code Panel ('the Panel'), in accordance with the terms of the Balancing and Settlement Code ('BSC'). The BSC is the legal document containing the rules of the balancing mechanism and imbalance settlement process and related governance provisions. ELEXON is the company that performs the role and functions of the BSCCo, as defined in the BSC.

An electronic copy of this document can be found on the BSC website, at [www.elexon.co.uk](http://www.elexon.co.uk)

## 3 MODIFICATION GROUP DETAILS

This Assessment Report has been prepared by the P109 Modification Group. The Membership of the Modification Group was as follows:

Member	Organisation
Justin Andrews	ELEXON (Chairman)
Roger Salomone	ELEXON (Lead Analyst)
Neil Cohen	ELEXON (Technical Expert)
John Capener	British Energy (Proposer)
Graham Shuttleworth	NERA
Ali Lloyd	Ali Lloyd Consulting
Bill Reed	Innogy
Bob Brown	Cornwall Consulting
Cathy McClay	Edison Mission
Danielle Lane	British Gas Trading
John Sykes	Scottish & Southern
Keith Miller	Teesside Power
Mick Walbank	AEP Energy Services
Mike Harrison	Scottish Power
Peter Bolitho	Powergen
Rupert Judson	LE Group
Malcolm Arthur	National Grid Company

In addition, the following attendees have been present at one or more meetings during the Assessment Procedure:

Attendee	Organisation
Rekha Patel	Conoco Phillips



Richard Ford	Ofgem
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## 4 DESCRIPTION AND ASSESSMENT AGAINST THE APPLICABLE BSC OBJECTIVES

### 4.1 The Proposed Modification

P109 seeks to address a perceived lack of efficient signals for long-term investment due to the risk of approval of a Modification Proposal seeking to change the allocation of transmission losses. When P109 was submitted on 1 November 2002, the Code set the value of TLFs to zero for all market participants, but it was recognised that the Code could be modified at any time in the future to make TLFs vary by location. Such a modification would change the value of long-term investments in the production or consumption of electricity. According to the Proposer, the resulting risk would either be too costly to hedge or unhedgeable, and so would reduce the efficiency of investment decisions. P109 seeks to mitigate this risk through a scheme that protects investors against the windfall effects of future changes to TLFs, whilst maintaining economic incentives at the margin, so that investors react more efficiently to current and future incentives within the Code.

The P109MG refined P109 such that the 'trigger' for the proposed risk mitigation scheme would be an Authority determination that the Code be modified such TLF changed. On 17 January 2003, the P109MG agreed that P109 had been triggered following the Authority determination to approve Modification Proposal P82.

On 17 January 2003, the Authority determined that Modification Proposal P82 'Introduction of Zonal Transmission Losses on an Average basis' ('P82') should be made. Approved Modification P82 will introduce zonal differentiation of transmission losses on 1 April 2004. Acknowledging that the Code baseline had changed, the P109MG defined the 17 January decision as the 'trigger' for hedging scheme proposed by P109.

The Code currently allocates 45% of total transmission losses to BM units located within 'Delivering' Trading Units and 55% to BM Units located within 'Offtaking' BM Units, in both cases on a uniform basis determined for each half-hour.

P109 would maintain this rule for each existing CVA-registered BM Units, but only for a fixed volume known as the 'F-Factor'. There would be two F-Factors per BM Unit – one for 'Delivering' and one for 'Offtaking'. For each CVA-registered BM unit, the associated F-Factor volumes would be defined by formulae relating to the past level of its output and consumption respectively, and would remain constant for the lifetime of the hedging scheme (i.e. 15 years from the trigger). Differences between actual output and these F-Factor volumes (whether positive or negative) would incur a TLF based on the new rules for allocating transmission losses (i.e. those contained in Approved Modification Proposal P82). Applying the new TLFs to marginal changes in output and consumption would preserve any desirable incentives provided by the new rules. However, applying the TLFs in existence prior to the trigger to fixed (i.e. F-Factor) volumes would provide a means of hedging against the windfall effects of such a change. CVA-registered BM units would have a one-off option to invoke this F-Factor or not (i.e., to set their F-Factor to zero), depending upon whether they wished to take advantage of the scheme or not.

'New' CVA-registered BM Units, those registered on or after 1 December 2002<sup>7</sup>, would be able to opt for F-factors based on average plant characteristics. For these F-Factors, they would tie in the zonal

<sup>7</sup> Any BM Unit registered on or after this period would not have been present for the duration of the baseline period agreed by the P109MG. And therefore would lack the required data set from which to calculate F-Factors on a historical basis..

TLF prevailing at the time of their registration. This aspect would offer some protection against instability in incentives – e.g. the prospect of TLFs worsening if a second generator connected at the same place.

For SVA-registered BM Units, the scheme would offer similar hedging, subject to the following conditions:

- (1) Suppliers within a GSP Group would share a single F-Factor volume defined for the GSP Group as a whole,
- (2) consequently, there would be no provision for such Suppliers to opt in or out of the scheme and
- (3) the F-Factor volume would decline gradually to zero over 15 years, to prevent any sudden change in costs to customers.

Interconnector BM Units would be offered hedging similar to that provided for SVA-registered BM Units, subject to the following conditions:

- (1) Interconnector BM Units would share a single F-Factor volume defined for the Interconnector as a whole,
- (2) the Interconnector Administrator (IA) would make a one-off decision, on behalf of all Interconnector Users, to hedge or not; and
- (3) the F-factor volume would constant for the lifetime of the hedging scheme (i.e. 15 years from the trigger).

The table below summarises the different treatment by BM Unit type:

	<b>CVA 'Existing'</b>	<b>CVA 'New'</b>	<b>SVA</b>	<b>Interconnector</b>
<b>Basis for F-Factor Values</b> (F-Factors are the volume to be hedged against varying TLFs)	Sample period from 1/12/01 to 31/11/02 <sup>8</sup>	Published statistics for new technology and migrating BM Units, as per CALF Methodology Statement	Pro-rata amount of GSP Group load, based on sample period from 1/12/01 to 31/11/02	Pro-rata amount of I/C load, based on sample period from 1/12/01 to 31/11/02
<b>Applicable Loss Factors</b> (ALFs are the Loss Factors to be applied to the F-Factor Volumes)	Dynamically calculated to remove zonal variation.	Prevailing TLF at the time of registration.	Dynamically calculated to remove zonal variation.	Dynamically calculated to remove zonal variation.
<b>Option to Hedge</b> (Allows hedging to be switched on, or off)	Yes (Lead Party)	Yes (Lead Party)	No	Yes (IA)
<b>Duration of Hedge</b> (Time over)	15 years from month of trigger	Remainder of 15 years from month	15 years from month of trigger	15 years from month of trigger

<sup>8</sup> Existing in this case means registered prior to the 1/12/01.

which the hedge applies)	date	of trigger date	date, with a linear rundown	date
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## 4.2 Assessment

The P109MG analysed a number of aspects of and issues associated with P109 in order to assess it against the Applicable BSC Objectives.

### 4.2.1 Governance

At the request of the Panel, the P109MG considered two potential governance issues associated with P109 –the perceived anticipatory nature of the proposal and whether or not the proposed risk mitigation scheme was within the vires of the Assessment Procedure.

The P109MG considered whether the proposal was contingent on subsequent changes (i.e. that it could not be given effect in the BSC until some further change had been implemented), anticipatory (i.e. that it could be given effect, but with an expectation that some subsequent change will occur), or neither (i.e. that it could be given effect, regardless of any subsequent changes). Some members of the Group considered that the BSC already contains provisions that take effect when other changes are made (Information Imbalance charges and Transmission Loss Multipliers utilising non-zero TLFs) and that the concept of the proposal ‘interfering with regulatory decisions’ was not meaningful, in that the proposal would, if accepted, be in the BSC and any subsequent proposal could take account of that fact.

Counter to this, it was suggested that the purported removal of regulatory risk would not be achieved, since a subsequent proposal could disapply the arrangements. However, it was argued that any such subsequent proposals would have to demonstrate that the Applicable BSC Objectives would be better achieved by such disapplication, recognising that, if P109 were in force, it would, presumably have been shown to better achieve said Objectives in the first place. A majority view emerged from the Group that P109 could be assessed on the basis that it purports to remove a risk (that imposes a cost on investment) that exists in the current BSC, regardless of future changes, albeit with a mechanism that switches in if TLFs become non-zero.

The P109MG concluded that P109 identified a legitimate defect, a risk, that TLF could change, that had transpired with the Authority determination on P82 and remained inherent in the governance arrangements of the Code. One member of the Group, on the basis of legal advice received by the Governance Modification Group on Modification Proposal P111, maintained that P109 was not legitimate because it had not raised an issue or defect with the version of the Code in existence at the time it was raised. That member interpreted the legal advice such that under existing Section F.2.1.2(c) of the Code the Modification Secretary could have refused to accept P109 given that it sought to mitigate against the risk of future ‘unfavourable’ changes to the Code.

The P109MG considered two aspects of vires

- (1) whether the scope of the BSC covered hedging or risk management arrangements;
- (2) whether there could be said to be a defect in the BSC, given the anticipatory nature of the proposal (i.e. the defect only manifests itself if a subsequent Modification is implemented).

On the first point, it was noted that the BSC already contains credit cover arrangements and these are risk management tools. A counter view was that the credit arrangements covered a risk to all Parties collectively, whilst the proposal related to the risk perceived by individual Parties.

On the second point, it was suggested that the proposal is an implementation approach (especially if the scope is limited to TLFs). However, the P109MG agreed that the defect is not that unhedgeable costs might be imposed at some future time, but that it is asserted that there is a risk of such costs being imposed. It is that perceived risk which is in the current BSC and purports to be the defect.

The Group concluded that the issue was within the scope of the BSC and that there was a purported defect related to the risk in the current BSC which could be assessed by the Group.

#### **4.2.2 Authority Determination on Modification Proposal P82**

The Authority issued its decision to direct a Modification to the BSC, in respect of Modification Proposal P82 'Introduction of Zonal Transmission Losses on An Average Basis' (P82) on the 17 January 2003. That proposal sought to introduce zonal transmission losses on an average basis. The P109MG considered the consequences for P109 as a result of this determination.

First, the 'trigger date' of P109 had now occurred, implying that some element of retrospection might be necessary for P109 to be effective. The P109MG considered that, although the trigger point was now the 17 January 2003, the effect of the proposal remained prospective and, hence, there was no difficulty that arose. It was also noted that, although legal advice provided to the Governance Modification Group (supporting the work on Modification Proposal P111) called into question the provenance of the original P109 proposal, this was no longer relevant as P109 was now seeking to amend the current BSC baseline.

Second, the perceived defect described in P109 had now changed from being associated with the risk of a future determination, to being associated with the realisation of such a risk. Some members of the P019MG suggested that P109 was no longer relevant and that no further effort should be expended on the proposal. Conversely others felt that the risk remained and hence the P109 was still a valid proposition. It was also suggested that, because the P109 retained exposure to the TLFs at the margin, it would not undermine any benefits delivered by zonal transmission losses.

The P109MG recognised differing views and agreed to continue the assessment of P109.

Finally, the P109MG also remarks made by the Authority in its determination on P82 to the effect that the Authority was of the view that the full impact of the preferred approach for zonal losses should be implemented. The Ofgem representative clarified this view by suggesting that a zonal losses proposal had been anticipated for some time, that the benefits should not be delayed and that there was sufficient time prior to implementation for any contractual adjustments to be made. It was also noted that the determination had expressed the Authority view that the current loss allocation regime constituted a 'cross-subsidy' and that the implementation of P82 would remove it. Some members of the P109MG suggested that the introduction of P109 would re-introduce some element of the current 'cross-subsidy'. However, a counter-view was expressed that, in the context of improving market efficiency, it was not clear what was meant by a 'cross-subsidy' and that P109 would retain the beneficial impact of the P82 arrangements on marginal decisions by market participants.

#### **4.2.3 Impact of Proposal**

Opinion was divided amongst the P109MG as to whether the proposal better achieved the Applicable BSC Objectives, or not. The P109 was divided on whether the risk of potential zonal variations in Transmission Losses would be mitigated and the value of such mitigation. For example, it was suggested that the cost of options to lay off zonal loss liabilities would be reduced, that investment

planning would be more certain and that raising capital would be cheaper<sup>9</sup>. These features would lead to increased efficiency and would thus better achieve Applicable Objective (c). Conversely, a member of the P109MG suggested that Applicable Objective (c) would not be better achieved because P109 would result in a 'cross-subsidy'. Several members made a related point that, under P109, the loss allocation of all participants would be affected by the hedging decisions of others. However, there was no consensus as to what constituted a 'cross-subsidy'. Therefore, there no agreed definition of 'cross-subsidy' was established with which to test this argument. It was further suggested that Applicable Objective (c) would not be better achieved because of the complexity of the proposal and the likely consequence that participants would make mistakes in accommodating the arrangements (i.e. would make inappropriate decisions in optimising commercial positions). Some of the P109MG considered that this was not a significant risk. It was also suggested that Applicable Objective (d) would not be better achieved because of the cost and complexity of the proposal.

One piece of analysis suggested that the effectiveness of the F - factors as a hedge against changing TLF would be reduced, depending on the choices made by other participants. In particular, the analysis suggested that CVA BM Units would opt in to F-factors if they would otherwise face negative TLFs (i.e. with an attenuating effect on the metered volume). However, those expecting to face positive TLFs would opt out, resulting in an under-allocation of the zonal component of losses that would be compensated for via the uniform loss allocation covered by the TLMO term. This constitutes an impact on volumes supposedly insulated from the TLFs, and would affect market participants without F-factors. However, one P109MG member noted that one would expect average increases in TLMO to feed through into higher electricity prices, thus offering an automatic form of stable adjustment. Consequently, although the P109MG recognised that the decision to exercise the hedging option might be difficult for some, the majority of the Group believed the impact on TLMO would be small and would not undermine P109.

Another piece of analysis was also considered that sought to illustrate whether deviations from the F-factor level, on a half-hour by half-hour basis (either intentionally, if output or consumption is dynamic, or unintentionally, if the F-factor is inaccurate), would introduce additional volatility to the market. It was argued that as the extent of the hedge varied, the BM Unit in question would be exposed to varying proportions of Applicable Loss Factor (ALF) and TLF. These variations would result in varying degrees of under or over allocation of zonal losses and, therefore, varying degrees of uniform loss allocation (in order to allocate correct volumes of losses, overall). Hence, there is a degree of volatility in half-hourly loss allocation (any hedging notwithstanding).

A counter view was expressed that this feature did not reduce the benefit of the proposal, since the basis for a participant's pricing regime would relate to the marginal impact of losses; i.e. the TLF. It was also suggested that the pP109I sought to mitigate a long term risk of zonal losses being imposed and affecting decisions on a fifteen year timescale. This risk was perceived to be greater than the risk associated with the half hourly volatility suggested by this analysis.

The P109MG considered a variant of the proposal that would mitigate this difficulty by allowing an annual reconciliation of deviations away from the F - factor. The suggestion was that, at the year end, the F- factor profile would be factored up or down to match actual output for the year, thus leaving exposure to the TLF solely for deviations from profile. However, the P109MG considered that this would confuse the incentives in respect of losses. The P109MG did acknowledge that, particularly because of imbalance price variations, an annual average F- factor would not have sufficient granularity. However, it was noted that, for generation, fixed planned outages were not necessarily the way in which

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<sup>9</sup> The P109MG sought to quantify some of these elements through consultation (seen Section 9 for consultation responses).

maintenance was carried out and therefore, too much granularity on the F – factor profile might also lead to inaccuracies.

#### 4.2.4 Different Treatment of BM Unit Types

The differences in treatment between SVA and CVA under P109 were considered to be necessary, on practicality grounds and appropriate in that the impact of non-zero TLFs would be smeared in the same way as the hedging is proposed to be smeared.

It was also agreed that the application of the linear run-down of the hedging (as opposed to the cliff-edge approach proposed for CVA BM Units) was appropriate as the intent was to protect smaller consumers from any sudden change in TLF.

The P109MG considered the position for Exemptable generating plant which has the option of registering in either SVA or CVA. It was noted that if a LEG were registered in SVA, its F – factor for Delivering would be likely to be zero, since GSP Groups do not typically export. However, this was not seen to be significant because LEGs typically reside in a Trading Unit with other BM Units in the GSP Group (and therefore tend to be Offtaking).

The P109MG noted that Interconnector BM Units shared some features of other CVA BM Units and some of SVA BM Units and that the defined approach was, therefore, sensible. The P109MG considered the concern raised by one consultation response that the Interconnector Administrator (IA) should not be responsible for deciding whether or not to hedge on behalf of all Interconnector Users. However, the Group concluded that no practical alternative existed<sup>10</sup>.

The P109MG re-considered that the initial approach for Interconnector BM Units of using metered volumes to pro-rata an F-Factor for individual BM Units. It was concluded that such an approach would tend to weaken incentives since the use of greater allocated capacity could lead to higher losses being allocated to a given BM Unit. The P109MG revised the approach by allocating F-Factors on the basis of Interconnector capacity allocation. It was felt that the IA could provide capacity allocation data and that such data was not commercially sensitive.

#### 4.2.5 Different Treatment of 'Existing' and 'New' CVA BM Units

The arrangements for new registrations were an attempt to allow new entrants to respond to the signals in any TLF scheme and benefit, thereby, thus preventing any discrimination against such new entrants.

A view was expressed that the arrangements may discriminate against existing players since new entrants would, by definition, be aware of the threats and opportunities and could respond accordingly. Hence, a potential variant would be to set F to zero for new entrants (i.e. for new registrations, as qualified above, to be fully exposed to the prevailing TLFs). The P109MG noted that new entrants could lock-in to advantageous loss factors, whilst existing plant could not.

This variant was thought by some members to go too far and that, alternatively, an F-factor could be applied to new BM Units, but perhaps with a scaled ALF, or with an ALF based on observed TLFs (i.e. for ALF to be fixed after say, 1 year of operation of the BM Unit). This latter approach could be extended to existing BM Units also.

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<sup>10</sup> It should be noted that no provisions have been built into P109 to accommodate the situation of new Interconnectors being registered. The P109MG was of the opinion that a Modification Proposal could be raised in the future to allow for such an eventuality were it deemed necessary.

The P109MG considered whether or not any special provisions were required so that plant at which major upgrades or changes had been made could be considered as 'new' BM Units. The criteria for receiving Renewable Obligation Certificates ('ROCs') were explored as a potential solution.

The Renewables Obligation Order contains a definition of 'excluded generation' which is not eligible for ROCs and a statement of the extent of plant renewal which will cause the plant to become eligible. However, it is limited to hydro and wind powered generating units.

The following extract from "The Renewables Obligation (Scotland) Order 2002" illustrates the point:

**8.—(1)** Subject to article 9, electricity shall be considered to have been generated from eligible renewable sources to the extent that it has been generated from renewable sources and provided that it has not been generated by an excluded generating station as specified in paragraphs (2) to (11).

(2) The following shall be excluded generating stations:

(a) large hydro generating stations except those first commissioned after the date this Order comes into force;

(b) subject to paragraph (5), generating stations (other than micro hydro generating stations) which were first commissioned before 1st January 1990 and where the main components have not been renewed since 31st December 1989 as described in paragraph (12);

(12) The main components of a generating station shall only be regarded as having been renewed since 31st December 1989 where—

(a) in the case of a hydro generating station the following parts have been installed in the generating station after 31st December 1989 and were not used for the purpose of electricity generation prior to that date:

(i) either all the turbine runners or all the turbine blades or the propeller; and

(ii) either all the inlet guide vanes or all the inlet guide nozzles; or

(b) in the case of any other generating station all the boilers and turbines (driven by any means including wind, water, steam or gas) have been installed in the generating station after 31st December 1989 and were not used for the purpose of electricity generation prior to that date.

An alternative to this approach was that of regarding a re-registration as being new if the GC and/or DC had changed. However, the P109MG concluded that the complexity of trying to distinguish between new registrations and existing registrations was not merited and that any registration after the relevant key dates should constitute a new BM Unit, unless that registration was co-incident with a de-registration as part of a 'Change of BM Unit Ownership' process (in this instance the BM Unit would not be considered 'new').

The P109MG noted one consultation response that BM Units based on new technology would lack historical data by definition. However, given that all BM Units would require F-Factors, in the absence of data historical data, use of F-Factors derived from the load factors used in CALF for new technologies appeared a sensible approach. The Group rejected one consultation response suggestion that the first year of operation could be used to establish an F factor, as such a number would be unavailable in that first year.

The P109MG recognised the argument that with the determination on P82, investment decisions could now take due account of that fact. Hence, it was agreed that P109 should be refined such that the run-down for the application of the hedge should run from the 17 January, 2003, rather than from registration (for new BM Units). It was also recognised that, because the approved zonal losses scheme employed annually varying TLFs and because of the absence of any non-zero TLF prior to implementation of the zonal losses scheme, BM Units should be allocated an ALF based on the most recently published TLF and such an ALF should apply to registrations after the implementation of the losses scheme (i.e. 1 April, 2004). This was accepted by the P109MG as a refinement to the propP109. It was suggested that a potential Alternative could be the removal of the option to be included or excluded from the hedging arrangements for new CVA BM Units, on the grounds that with an approved losses scheme, the risks were now known. The counter view was that this option still had value as protection against future changes to TLF. However, the potential option was not pursued by the P109MG.

Finally, the P109MG noted that P109 would make no provision for existing BM Units to benefit by 'locking-in' to an advantageous zonal TLF. However, it was felt that this would not undermine the alleged benefit of the proposal.

#### 4.2.6 Use of CALF-type Methodology in Calculation of F-Factors for New CVA BM Units

The P109MG agreed that 'Hedged Loads' (i.e.  $HL^{+/-}$ ) for 'new' CVA BM Units should be based on the relevant BM Unit capacity multiplied by the load factors given in the CALF Methodology Statement. Recognising that such an approach would only yield a single Hedged Load per BM Unit ( $HL^{+}$  in most instances), rather than the required two, the P109MG decided that the other Hedged Load (i.e.  $HL^{+}$  or  $HL^{-}$  as the case may be) should be set to zero. Such an approach provides the following Hedged Loads for new CVA BM Units:

Plant Type	HLF <sup>+</sup>	HLF <sup>-</sup>	Comments
Onshore wind generator	GC*0.289	0	Based on CALF Methodology. Assumes that non-zero CALF figure does not allow for any consumption.
Biofuel generator	GC*0.623	0	Based on CALF Methodology. Assumes that non-zero CALF figure does not allow for any consumption.
Hydro-electric generator	GC*0.0815	0	Based on CALF Methodology. Assumes that non-zero CALF figure does not allow for any consumption.
Open Cycle Gas Turbine generator	GC*0.0815	0	Based on CALF Methodology. Assumes that non-zero CALF figure does not allow for any consumption.
Combined Cycle Gas Turbine generator	GC*0.3618	0	Based on CALF Methodology. Assumes that non-zero CALF figure does not allow for any consumption.
Demand	0	DC*0.4706	Based on CALF Methodology. Assumes that non-zero CALF figure does not allow for any export. Assumes no exports.
Station Demand	0	DC*0.0664	Based on CALF Methodology



			for commissioning plant. Assumes no exports.
Other new technology (e.g. Offshore wind generator)	Code Mod required	Code Mod required	No data available in CALF methodology.

#### 4.2.7 Sample Period for Calculation of F-Factors

The P109MG noted the preference of a number of consultation responses for a seasonal variation in F-Factors, rather than monthly variation. It was noted that, although variation between months, or between seasons was modest, in terms of volumes, prices could vary considerably. However, on balance, the P109MG considered that it would be of benefit to refine the proposal such that F factors would be based on a seasonal average, rather than a monthly average.

#### 4.2.8 'Mechanistic' versus 'Discretionary' Setting of F-Factors

It was noted that some respondents to consultation suggested that the Panel might hear appeals on F factors. However, it was recognised that an appeal was only meaningful if the original decision had been made by the body which was being appealed to (in this case the Panel). The P109MG satisfied itself that no such discretionary arrangement was required for the setting of F factors, since, unlike the allocation of CALF values, there was an option arrangement for F factors.

#### 4.2.9 Impact on Cost of Capital

The P109MG considered the proposition that P109 would reduce the cost of capital. It was noted that one consultation response (in support of the proposal) suggested a figure of 1% additional cost because of the risk of losses becoming allocated on a zonal basis. Some responses against the proposal suggested that there would be no tangible change to the cost of capital. Some members (and this was reflected in one consultation response) that, under the P109, TLMs would continue to be uncertain and would not, therefore, afford the purported reduction in risk. However, it was suggested that this view was based on uncertainty in the application of the scheme and would disappear once a scheme were finalised.

An analysis was presented to the P109MG, based on a NERA Economic Consulting paper<sup>11</sup>, demonstrating that an increase in the variance of the rate of return could raise the 'hurdle rate' (i.e. the cost of capital for an investment project). The NERA analysis postulated a 5% hurdle rate at zero risk and a 12.5% hurdle rate if the variance of the rate of return was 30% of the average. It was claimed that these latter conditions were consistent with the risks that might face a power station's investment project.

Adding in an additional risk to revenues of +/-2%, due to potential amendment to the loss allocation regime, could increase the variance to 32% and imply a new hurdle rate of approximately 13%, and increase of the cost of capital of 0.5%.

In response to concerns relating to the sensitivity of the analysis, it was suggested that if the assumptions were changed, this would alter the change in the cost of capital within a range of between 0.25% and 1.25%. Furthermore, it was also noted that for each percentage point increase in the cost of capital, new entrant costs (and long run sustainable market prices) increase by approximately £0.60/MWh, or £180,000,000 per annum on a total annual generation of 300TWhrs. Hence, whilst the size of the impact could not be estimated, the effect of even small changes would probably outweigh the development and operational costs of P109.

<sup>11</sup> Brian Williamson, 'Competition, policy stability and growth', (NERA, London)

Two counter-views were expressed amongst the P109MG:

- (1) the postulated 30% variance in the rate of return, given that it was stated as a generic market risk, should already take into account the potential for amendment to the loss allocation (those who put forward the analysis responded that the initial calibration of the model from which it was produced excluded additional risk arising from variable TLFs); and
- (2) doubt was expressed over the proposition that P109 would significantly decrease the risk produced by variability in TLFs.

The P109MG noted the analysis and counter-views, and were divided on whether P109 would reduce the cost of capital and whether P82 would increase it.

#### **4.2.10 Credited Energy**

P109 implies that even with a metered volume of zero, a BM Unit would receive a residual credit or liability, if its F factor were non-zero. In order to accommodate this, the P109MG agreed that the relevant equations should be split such that the F-Factor volume is treated as a distinct quantity to the volume exposed to TLM. These two volumes can then be brought together to establish the overall Credited Energy. This approach was agreed as a refinement to P109 and has been incorporated into the legal text (see Annex 1). It was noted that no residual credit or liability is assumed for Bid/Offer Acceptances and, hence, the P109MG accepted that Bid/Offer Acceptance volumes should be modified by TLM without reference to F-Factors.

#### **4.2.11 Tradability of F-Factors**

A potential element of the proposal could be the trading of F – factors. This would involve the re-allocation of a particular F – factor, along with its associated ALF, to another BM Unit. The suggestion was that this would remove any perceived issue with the transfer of history on 'Change of BM Unit Ownership' and would allow trading of the hedge that a particular BM Unit had established.

On the basis of consultation responses received, the P109MG recognised that establishing a centralised framework to trade F-Factors would be complex and that liquidity would probably be low. Therefore, the P109MG concluded that tradability should not form part of P10MG and that, should the need for trading arise, a process could evolve outside the Code or a Modification Proposal raised to incorporate one within it.

### **4.3 Assessment Against Applicable BSC Objectives**

A narrow majority of the P109MG believed that P109 would better facilitate achievement of the Applicable BSC Objectives. Therefore, the P109MG recommends that the Panel agree that P109 should be made. However, a substantial minority of the Group was of the opinion that P109 would not better facilitate the Applicable BSC Objectives.

The P109MG believed P109 would have an impact on the achievement of the following Applicable BSC Objectives:

- Applicable BSC Objective B: 'The efficient, economic and co-ordinated operation by the Transmission Company of the Transmission System.'
- Applicable BSC Objective C: 'Promoting effective competition in the generation and supply of electricity and (so far as is consistent therewith) promoting such competition in the sale and purchase of electricity.'

- Applicable BSC Objective D: 'Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.'

The principal argument in favour of implementation of P109 was as follows. Achievement of Applicable Objectives B and C would be better facilitated through the provision of a more stable investment environment, coupled with the retention of the benefits provided by the locational signals resulting from P82. Limiting exposure of existing investment to variable transmission losses and providing protection against potential future changes in the allocation of transmission losses would increase the efficiency of long-term investment in generation and supply. As consequence, investment in the Transmission System would be more efficient. In addition, the reduced risk faced by industry as a result of this more stable environment would decrease the cost of capital, reducing barriers to entry. Moreover, the benefits of this reduction in risk would outweigh the implementation costs of P109 – therefore, achievement of Applicable BSC Objective D would not be compromised.

The principal arguments against implementation of P109 were threefold. First, P109 would reduce the benefits introduced by P82 through a reduction in the accuracy of the allocation of transmission losses and by diminishing the locational signals of the scheme. Therefore, Applicable BSC Objectives B and C would be undermined. Second, the purported benefits resulting from the perceived reduction in risk introduced by P109 would be outweighed by increased variability in 'Transmission Loss Multipliers' (TLMs)<sup>12</sup>. Thereby undermining BSC Objective C. Finally, BSC Objective D would be undermined owing to the reduction in efficiency of the settlement arrangements resulting from the cost and complexity of administering P109.

## 5 IMPACT ON BSC AND BSCCO DOCUMENTATION

### 5.1 BSC

Implementation of P109 would require amendments to three sections of the Code – Section K, Section T and Section X. Draft legal text for the changes required to each of these sections is included in Annex 1.

#### 5.1.1 Section K: Classification and Registration of Metering Systems and BM Units

Sections 3.2 ('Registration of BM Units') and 5.5 ('Interconnector') would need to be amended to place a requirement on the Lead Party of a CVA BM Unit (or the Interconnector Administrator on behalf of Interconnector BM Unit Lead Parties) to elect to set their 'Hedging Flag' to one or zero (i.e. to opt in or out of the risk mitigation scheme) as part of the registration process.

#### 5.1.2 Section T: Settlement and Trading Charges

Section T2 (Allocation of Transmission Losses) would need to be amended to include the algebra necessary to implement the risk mitigation scheme. The required amendments fall into seven categories:

1. Revised formulae for the calculation of 'Transmission Loss Adjustments' (i.e. 'TLMO<sup>+/-</sup>');
2. Formulae for the calculation of 'Applicable Loss Factors' (i.e. 'ALF<sup>+/-</sup>', the loss factors applicable to the hedged portion of a BM Unit's metered energy) for CVA BM Units (excluding Interconnector BM Units), SVA NM Units and Interconnector BM Units;

<sup>12</sup> 'Transmission Loss Multipliers' ('TLMs') are the multiplicative factor applied to metered volumes in Settlement to allocate transmission losses.

3. Rules for assigning a 'Hedging Flag' (i.e. 'HED') to a BM Unit for the purposes of calculating F-Factors (i.e.  $F^{+/-}$ ) for that BM Unit; and
4. Formulae for the calculation of 'F-Factors' (i.e.  $F^{+/-}$ ) for CVA BM Units (excluding Interconnector BM Units), SVA NM Units and Interconnector BM Units
5. Formulae for the calculation of 'Hedged Loads' (i.e. 'HL'<sup>+/-</sup>) for CVA BM Units (excluding 'new' BM Units and Interconnector BM Units), SVA BM Units and Interconnector BM Units; and
6. Table providing rules for assigning 'Hedged Loads' (i.e. 'HL'<sup>+/-</sup>) for 'new' CVA BM Units (i.e. those registered on or after 1 April 2004) to be used by BSCCo.

Section T4.5 'Determination of Credited Energy Volumes for each Energy Account' would need to be amended to include revised formulae for the calculation of 'Credited Energy Volumes' (i.e. 'QCE') which acknowledge the fact that BM Units will now have two portions of energy – hedged and unhedged.

Annex 1 of this document provides the algebra required for the above procedures.

### 5.1.3 Section X: Definitions and Interpretations

Tables X-2 ('Terms and Expressions Applying Except in Relation to Section S') and X-3 ('Glossary of Acronyms Applying Except in Relation To Section S') would need to be amended to include entries for the new parameters introduced by P109 into Section T.

## 5.2 Code Subsidiary Documents

BSCCo has identified one Code subsidiary Document that would require amendment as a result of P109 - BSC Procedure 15 'BM Unit Registration'. This BSCP would need to be amended to include a requirement on the Lead Party of a CVA BM Unit (or the Interconnector Administrator on behalf of Interconnector BM Unit Lead Parties) to elect to set their 'Hedging Flag' to one or zero (i.e. to opt in or out of the risk mitigation scheme) as part of the registration process.

## 6 IMPACT ON BSC SYSTEMS

The High Level Impact Assessment (HLIA) provided by NETA Central Service, contained in Annex 4 of this document, provided the following estimate of the costs and developments associated with the requirements for P109<sup>13</sup>:

	Option 1 (BSCCo Calculate 'Raw Load Factors')	Option 2 (NETA CS Calculate 'Raw Load Factors'*)
Project Duration	24 weeks	28 weeks
Development Cost	£882,381	£1,015,448
Operational Cost	None	£455 per annum
Maintenance Cost	£123,533 per annum	£142,163 per annum

<sup>13</sup> Note that the HLIA was provided prior to final refinements to P109 made by the P109MG. Therefore, a revised HLIA has been requested from NETA Central Service and the results will be reported to the Panel on 13 February 2003. However, the P109, was of the opinion that the cost and timescales provided in the original HLIA were of the right order of magnitude given that the refinements were modest.

\* With the exception of 'new' CVA BM Units 'Raw Load Factors', which would still be calculated by BSCCo under Option 2.

The following subsections provide a high-level description required to each of the affected BSC Systems.

## 6.1 Registration

CRA systems would be required to load, store and make available to SAA 'Hedged Loads' (i.e. 'HL'<sup>+/-</sup>) for all BM Units and the 'Hedging Flag' (i.e. 'HED') for CVA BM Units.

## 6.2 Settlement

Settlement systems will need to be enhanced to meet the requirements of P109. In particular, the following changes will need to be made:

1. Develop new interface with CRA to receive 'Hedged Loads' (i.e. 'HL'<sup>+/-</sup>) for use in Settlement; and
2. Introduce functionality to perform new and revised calculations specified in Annex 1 and summarised in Section 5.1.2 above.

## 6.3 Reporting

The Settlement Report issued by SAA (i.e. SAA-I014) would need to be expanded to report four new parameters (i.e. F<sup>+/-</sup> and ALF<sup>+/-</sup>) on a per BM Unit basis per Settlement Period basis.

## 7 IMPACT ON BSCCO

The following subsections provide a HLIA of the requirements placed by P109 on BSCCo.

### 7.1 Calculation of 'Hedged Load' (Options 1 & 2)

Under 'Option 1' BSCCo would have to calculate 'Hedged Loads' (i.e. 'HL'<sup>+/-</sup>) for all BM Units. 'Option 2' would only require BSCCo to calculate 'Hedged Loads' (i.e. 'HL'<sup>+/-</sup>) for CVA BM Units without or with insufficient historical data (i.e. those registered on or after 1 April 2004 and those registered prior to this date but without metered data for the period 1 December 2001 to 30 November 2003).

The table below summarises the impact of these requirements on BSCCo, note that no material difference in impact was discerned between 'Option 1' and 'Option 2'.

Activity	Resource Requirement	Cost Estimate*
TOMAS Software Development	120 Man Days	£60,000
Ongoing TOMAS Support	60 Man Days per annum	£30,000 per annum
Calculation of Hedged Loads	40 Man Days per annum	£20,000 per annum

\* 'Man Days' are costed at £500 each

### 7.2 Amendment of Affected Documentation

BSCCo would need to change the following documentation to implement P109:

- BSCP15

- BSC (Section K, T & X)
- CRA Service Description (SD) and User Requirement Specification (URS)
- SAA Service Description (SD) and User Requirement Specification (URS)
- Interface Definition Document (IDD)

In addition, BSCCo would have to be involved in calculation specific, regression and performance testing of the changes that would need to be made to the CRA and SAA systems.

A total resource requirement of 94 'Man Days' of effort is estimated for these two sets of activities.

## 8 IMPACT ON PARTIES

Detailed Level Impact Assessments (DLIAs) were requested from Parties on 13 January 2003, the deadline for responses was 24 January 2003. The table below summarises the seven impact assessments received:

Respondent	Impact	Lead-time Required
Scottish Power	Low	None, if implemented in parallel to Modification Proposal P82
Npower/Npower Direct/Npower Yorkshire/ Npower Yorkshire Supply	New processes required to determine whether or not to apply F-factors and to monitor impact of F-factors	6 months
Npower Northern/Npower Northern Supply	New processes required to determine whether or not to apply F-factors and to monitor impact of F-factors	6 months
Aquila Networks	None	N/A.
LE Group	Changes required to settlement systems to reflect revised settlement algebra (cost estimated at £45,000)	3-6 months
National Grid Company	None <sup>14</sup>	N/A.
British Energy	New Interface	

In general, impact assessments fell into two categories. The first category cited low impact and no requirement for a lead-time prior to implementation of P109. The second category cited an impact on settlement systems to reflect revised settlement algebra and a requirement for between three and six months lead-time prior to implementation.

<sup>14</sup> Note that this impact assessment was received prior to the refinement made to P109 by the P109 requiring the Interconnector Administrator (IA) to provide Central Systems with information regarding capacity on the Interconnector in question. The Transmission Company, in its capacity as an IA would therefore be impacted.

## 9 SUMMARY OF REPRESENTATIONS

A consultation document, including a worked example and set of consultation questions, was issued on 13 January 2003, with a response deadline of 24 January 2003. Fifteen responses (53 Parties) were received. All consultation responses received are attached as Annex 2 of this document.

The following subsections summarise the responses received to each of the questions asked

### 9.1 Assessment Against Applicable BSC Objectives

Seven respondents (18 Parties), believed P109 would better facilitate achievement of the Applicable BSC Objectives. The principal arguments cited in favour of P109 were as follows:

- would protect sunk investments while retaining locational incentives
- would provide a more stable investment environment
- would reduced overall risk faced by the industry
- would reduce the 'windfall' 'gains' and 'losses' associated zonal transmission losses
- would reduce cost to consumers associated with zonal transmission losses

Six respondents (32 Parties) indicated that they believed that P109 would not better facilitate achievement of the Applicable BSC Objectives. The principal arguments cited against P109 were as follows:

- would result in 'inaccurate' allocation cost of transmission losses
- would reduce the benefits associated with zonal transmission losses
- would be complex and costly scheme
- would discriminate against flexible portfolios, peaking plant and new entrants to the market
- would be 'contingent' upon a approval of a future Modification Proposal to the Code
- proposed risk mitigation scheme is outside the *vires* of the Code (i.e. a commercial matter)
- would introduce a cross-subsidy between Parties 'that opt-in' and Parties that 'opt-out'

The remaining two respondents, representing three Parties, did not respond to this question.

### 9.2 Impact on Cost of Capital

Respondents were divided as to the impact of P109 on the cost of capital.

Those supporting P109 were of the opinion that the more stable investment environment it would produce would reduce risk and hence, the cost of capital. One respondent quoted Enron's figure of a one-percent increase in the cost of capital resulting from the introduction of zonal transmission losses.

Those who did not support P109, were of the opinion that there would be no impact on the cost of capital for three reasons. First, it would be impossible to attribute a specific portion of regulatory risk to the potential for a change in the methodology of allocating transmission losses. Second, the potential for increased volatility in Transmission Loss Multipliers (TLMs) as a result of P109 would counteract any reduction in risk associated with more stable TLFs. Thirdly, the Authority could always, at some point in the future, remove the risk mitigation scheme introduced by P109.

### 9.3 Impact on Party Systems

Respondents in favour of P109 reported that its introduction would have a 'minor' impact on their systems and processes – particularly if introduced in parallel with P82. However, respondents not in favour of P109, reported that its introduction would have a 'major' impact on their systems and processes. Participants would have to introduce new systems and processes to monitor 'F-factors', to

the replicate the more complex Settlement algebra and to support more complex pricing decisions and risk management operations that would be required.

Respondents quoted requirements of between three and six months lead-time to implement the changes necessary to support P109.

## **9.4 Sample Period for Calculation of F-Factors**

Consultees were asked what sample period they thought the most appropriate for the calculation of 'F-factors'. Responses were divided in their opinions.

Five respondents cited a BSC Season, because it would allow for seasonal variations in demand and outages, the concept already exists in the Code and the period would offer a compromise between accuracy and volatility.

Three respondents cited a month. Two options were suggested – the same month of the preceding year and the month prior to the one in question. The later option was suggested because it was believed to be more responsive to contractual changes.

Two respondents cited the BSC Year because it was the same degree of resolution as the zonal TLFs in Approved Modification P82 and would be a longer enough sample period to smooth out short-term variations.

## **9.5 Definition and Treatment of 'New' BM Units**

Consultees were asked whether or not they agreed with the definition and treatment of 'new' BM Units developed by the P109MG. They were asked to comment on five distinct elements of that treatment.

### **9.5.1 Definition of 'New' BM Units**

Respondents expressed general support for the use of the date of a BM Unit's registration as the identifier whether or not it constituted a 'new' BM Unit (i.e. those registered after the 'trigger date' would be considered as 'new'). However concerns were expressed that the use of registration date as an identifier would not address the issues of migration between SMRS and CMRS and the 'restructuring of BM Units'.

### **9.5.2 Use of 'CALF-type' Methodology to Establish F-Factors**

Respondents were divided as to whether or not the use of a 'CALF-type' methodology to establish F-factors for 'new' CVA BM Units would be appropriate. Those in support of this approach believed it was a proven methodology appropriate for the limited circumstances in which no historical data existed from which to establish F-factors. Those against the use such a methodology believed it would be 'discriminatory, because it would be more accurate for certain plant types, and would require unnecessary Panel involvement in setting load factors.

### **9.5.3 Option for 'New' CVA BM Units to Hedge**

Respondents were divided as to whether or not 'new' CVA BM Units should be provided with the option to participate in the proposed risk mitigation scheme. Those in favour expressed the opinion that their exclusion from the scheme would create a barrier to entry in the market and that it would be inequitable given that all other categories would either be automatically included in the scheme or given the option to participate. Those against extending the option to participate to 'new' CVA BM



Units, argued that such BM Units had registered in full knowledge that zonal transmission losses existed and their inclusion would increase the risk to existing BM Units.

#### **9.5.4 Basing 'Applicable Loss Factors' on Prevailing Zonal TLFs**

Consultees were asked whether or not they supported basing the 'Applicable Loss Factors' for 'new' BM Units on the prevailing zonal TLF. ALFs are the loss factors that would be applied to the hedged portion of a BM Unit's metered volume (i.e. the 'F-Factor' MWh value). Respondents were divided in their opinions.

Those supporting the use of the prevailing zonal TLF expressed the opinion that this approach would be 'consistent with eliminating the windfall gains and losses' associated with zonal transmission losses. Those who did not support this approach, argued that it was arbitrary and would require scope for appeal on the basis of contradictory operational data.

Two alternatives were suggested. First, 'new' BM Units could be assigned an ALF equal to 110% of the prevailing zonal TLF to factor in their potential impact on the zonal TLF in the future. Second, to ensure greater accuracy, 'new' BM Units could be assigned an ALF based on the average TLF in the first year of their operation.

#### **9.5.5 Fifteen Year Lifetime of 'New' BM Unit Hedge**

Consultees were asked whether or not they agreed that 'new' CVA BM Units opting to participate in the risk mitigation scheme should be hedged for fifteen years from the point of their registration. Respondents were divided in their opinions.

Those in support expressed the opinion that fifteen years was consistent with the typical financing in the industry, and hence the appropriate period for an effective hedge. Those against believed that this would constitute inequitable treatment of different categories of BM Unit and that 'new' BM Units should be hedged for fifteen years from the 'trigger date', like existing BM Units.

### **9.6 Setting of Factors – 'Mechanistic' versus 'Discretionary'**

Consultees were asked whether, in their opinion, setting F-factors should be, as far as possible, an entirely mechanistic process, or, whether a degree of Panel discretion should be involved.

The majority favoured a mechanistic approach. Such an approach would, provided a dispute process existed for manifest errors or exceptional circumstances, provide maximum simplicity, certainty and transparency.

The minority who favoured a discretionary approach was of the opinion that a mechanistic approach could lead to inappropriate F-factors.

### **9.7 Different Treatment of BM Unit Types**

There was general support amongst respondents for the differing treatment proposed for CVA, SVA and Interconnector BM Units. Most acknowledge that it was necessary on pragmatic grounds. However, the following concerns were expressed:

- Interconnector Administrators should not be entitled to exercise the hedging decision on behalf of all Interconnector users. Such a decision is a commercial one that ought to be by the users themselves.
- Different treatment of CVA and SVA BM Units is 'discriminatory'

- Proposed treatment of SVA BM Units would reduce locational incentives provided by zonal transmission losses

## **9.8 Tradability of F-Factors**

The majority of respondents did not support making F-factors tradable. Most respondents believed this would be complex, costly, provide opportunities for gaming. The minority supporting tradability believed that, in accordance with economic theory, it would enhance 'efficiency'.

## **9.9 Other Comments**

In addition to the answers provided to the set questions, the following other comments were received:

- P109 would provide an alternative to flexible portfolio as means to hedging against zonal transmission losses;
- P109 would increase market efficiency rather introducing a 'cross-subsidy' as alleged by some; and
- P109 should be sent directly to Report Phase with recommendation that it should not be made because the P82 determination removes the perceived defect of regulatory risk in the rules governing the allocation of transmission losses

## **10 SUMMARY OF TRANSMISSION COMPANY ANALYSIS**

The impact assessment received from the Transmission Company is attached in Annex 4, and indicates that P109 would not affect the Transmission Company's ability to discharge its obligations or impact its systems. However, please note that this impact assessment was received prior to the refinement made to P109 by the P109 requiring the Interconnector Administrator (IA) to provide Central Systems with information regarding capacity on the Interconnector in question. The Transmission Company, in its capacity as an IA would therefore be impacted.

## **11 PROJECT BRIEF**

The provisional project plan below is based on the following implementation assumptions:

- (1) Implementation Date of 1 April 2004;
- (2) New functionality to be delivered through February 2004 BSC Systems Release;
- (3) NETA Central Service requires 28 weeks to develop and test new functionality; and
- (4) BSCCo requires 14 weeks after completion of development and testing of new functionality to carrying out testing required for incorporation in February 2004 BSC Systems Release.

ID	Task Name	Duration	Start	Finish	2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter			3rd Quarter					
					Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
1	<b>P109 Implementation Plan</b>	<b>361 days</b>	<b>####</b>	#																					
2	<b>April 2004 Implementation</b>	<b>274 days</b>	<b>####</b>	#																					
3	Authority Decision	0 days	####	#																					
4	BSC Agent Development	140 days	####	#																					
5	Amendments to BSCCo Systems	120 days	####	#																					
6	CVA Programme Activities	92 days	####	#																					
7	Implementation within software	0 days	####	#																					
8	Implementation Date	0 days	####	#																					
9	<b>August 2004 Implementation</b>	<b>250 days</b>	<b>####</b>	#																					
10	Authority Decision	0 days	####	#																					
11	BSC Agent Development	140 days	####	#																					
12	Amendments to BSCCo Systems	120 days	####	#																					
13	CVA Programme Activities	92 days	####	#																					
14	Implementation within software	0 days	####	#																					
15	Implementation Date	0 days	####	#																					



**ANNEX 1 – PROPOSED TEXT TO MODIFY THE BSC**

*[See Attachment 1]*

**ANNEX 2 – CONSULTATION RESPONSES**

*[See Attachment 2]*

**ANNEX 3 – BSC PARTY IMPACT ASSESSMENTS**

*[See Attachment 3]*

**ANNEX 4 – BSC AGENT IMPACT ASSESSMENTS**

*[See Attachment 4]*

**ANNEX 5 – TRANSMISSION COMPANY ANALYSIS**

*[See Attachment 5]*

**ANNEX 6 – WORKED EXAMPLE**

*[See Attachment 6]*