June 2003

ASSESSMENT REPORT

MODIFICATION PROPOSAL P125 –

Apportionment of the Scottish Interconnector Flows to the Northern and North Western GSP Groups for the Purposes of Calculating Losses

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

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Author	Roger Salomone

I DOCUMENT CONTROL

a Authorities

Version	Date	Author	Change Reference
0.1	27.052003	Roger Salomone	Initial Draft for Internal Review
0.2	30.05.2003	Roger Salomone	Second Draft for Modification
0.3	03.06.2003	Roger Salomone	Final Draft for Internal Review
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Version	Date	Reviewer	Responsibility
0.1	28.05.03	Neil Cohen	Initial Internal Review
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b Distribution

Name	Organisation
Each BSC Party	Various
Each BSC Agent	Various
The Gas and Electricity Markets Authority	Ofgem
Each BSC Panel Member	Various
energywatch	energywatch
Core Industry Document Owners	Various

c Intellectual Property Rights and Copyright

II CONTENTS TABLE

1 SUMMARY AND RECOMMENDATIONS

1.1 Recommendations

On the basis of the analysis, consultation and assessment undertaken in respect of this Modification Proposal during the Assessment Procedure, and the resultant findings of this report, the Modification Group recommends that the BSC Panel should:

(a) AGREE that Proposed Modification P125 should be made;

(b) AGREE an Implementation Date for Proposed Modification P125 of 1 April 2004 if an Authority Decision is received by 15 August 2003 and 1 April 2005 if an Authority Decision is received after 15 August 2003 but before 15 August 2004;

(c) AGREE that Proposal Modification P125 be submitted to the Report Phase in accordance with Section F2.7 of the Code; and

(d) AGREE that the draft Modification Report be issued for consultation and submitted to the Panel Meeting on 10 July 2003.

The Transmission Loss Factor Modification Group (TLFMG) request that the Panel note that, given the interaction between Modification Proposal P125 and the implementation of Approved Modification P82[1], an early determination from the Authority is highly desirable. The later the determination, the greater the risk to BSCCo's ability to publish zonal TLFs on 1 December 2003. A full discussion of the issues associated with the determination deadline recommended above is presented in Section 4.6 of this report.

1.2 Background

Modification Proposal P125 (P125), raised on 31 March 2003 by Scottish and Southern Energy, proposes an alternative methodology for generating the zonal Transmission Loss Factor (TLF) applicable to BM Units associated with the Scottish Interconnector. According to the Proposer, the current methodology, introduced by Approved Modification P82, discriminates unnecessarily against such BM Units and undermines competition.

BSCCo presented an Initial Written Assessment (IWA) to the Balancing & Settlement Code Panel ('the Panel') on 10 April 2003. The Panel agreed with the recommendation in the IWA that P125 be submitted to a two-month Assessment Procedure and that an Assessment Report be presented at the June 12 2003 Panel meeting. P125 was assigned to the TLFMG in recognition of that Group's expertise in the area and its experience of having progressed previous Modification Proposals relating to the treatment of transmission losses.

1.3 Rationale for Recommendations

The majority of the TLFMG was of the opinion that P125 would better facilitate achievement of Applicable BSC Objective (c):

'Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity.'

The current methodology for calculating the zonal TLF applicable to Scottish Interconnector BM Units, as introduced by Approved Modification P82, is such that these BM Units are treated as having a

[1] Approved Modification P82 'Introduction of Zonal Transmission Losses on an Average Basis' is due to be implemented on 1 April 2004.

different impact on transmission losses than other BM Units connected to the transmission network at the same point. Such points are referred to as 'nodes' – a point on an electrical network at which power may flow onto or off such a network.

Energy imported or exported across the Scottish Interconnector has the same impact on transmission losses on the England & Wales network, per unit of energy, as energy drawn off or delivered by any other type of BM Unit attached to the same nodes (i.e. the terminal nodes of the Scottish Interconnector). Therefore, to avoid the distortion of competition, the TLFMG concluded that all BM Units attached to the same nodes ought to be treated similarly for the purposes of calculating and assigning TLFs.

Whilst the TLFMG was of the opinion that the benefits of P130 could not be easily quantified, it noted that the implementation cost would be minimal - neither BSC Systems nor BSC Party systems would be impacted. The impact would be restricted to BSCCo, and require 22 Man Days of effort to calculate the Scottish Interconnector TLF, expand the scope of the BSC Audit to cover this activity and change the Network Mapping Statement to reflect the revised mapping relationships introduced by P125[2].

The TLFMG concluded that P125 should be implemented on 1 April 2004 so as to coincide with the implementation of Approved Modification P82.

A full assessment of P125 against the Applicable BSC Objectives is provided in Section 4.5 of this report.

2 INTRODUCTION

This Report has been prepared by ELEXON Ltd., on behalf of the Panel, in accordance with the terms of the Balancing and Settlement Code ('Code'). 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 Code.

An electronic copy of this document can be found on the BSC website, at www.elexon.co.uk

3 MODIFICATION GROUP DETAILS

This Assessment Report has been prepared by the TLFMG. The membership of the TLFMG was as follows:

MEMBER	ORGANISATION
Justin Andrews (Chairman)	ELEXON
Roger Salomone (Lead Analyst)	ELEXON
Neil Cohen (Technical Expert)	ELEXON
Garth Graham (Proposer)	Scottish and Southern Energy
Bill Reed	Innogy
Cathy McClay	First Hydro
Danielle Lane	British Gas Trading

[2] P125 would change the Volume Allocation Unit to Node mapping for the Scottish Interconnector, the Node to Zone mapping for the terminal nodes of the Scottish Interconnector and the BM Unit to Zone mapping for Scottish Interconnector BM Units.

Martin Mate	British Energy
Peter Bolitho	Powergen
Mike Harrison	ScottishPower
Richard Lavender	National Grid Transco

In addition to the members of t he TLFMG, three regular attendees also contributed to discussions – Kristian Myhre (Ofgem), Sanjukta Round (Cornwall Consulting) and Russell Hill (LE Group).

4 DESCRIPTION AND ASSESSMENT AGAINST THE APPLICABLE BSC OBJECTIVES

P125 proposes an alternative methodology for calculating the zonal TLF applicable to BM Units associated with the Scottish Interconnector, on the basis that the existing methodology is believed to discriminate unnecessarily against such BM Units and undermine competition.

4.1 Current Methodology

The TLFMG reviewed the current methodology for calculating the zonal TLF applicable to Scottish Interconnector BM Units and noted four key steps in the process:

- **Load Flow Model Input Processing:** under Approved Modification P82 the aggregate metered volume across the Scottish Interconnector must be apportioned between the terminal nodes of that Interconnector (i.e. the Stella West and Harker nodes)[3] whilst loading the data into the Load Flow Model for each sample Settlement Period.
- **Generating the Scottish Interconnector Zonal TLF:** once the Load Flow Model has been run, the nodal TLFs that are produced must be averaged across the relevant zones. The TLFs for the Interconnector Boundary Point nodes would be weighted by the apportioned Interconnector flow at each node and summed to generate a zonal TLF, as follows:

  $$TLF_{13} = (\Sigma_N P_N \,.\, TLF_N)$$

  where Σ_N *is sum across all Scottish Interconnector Boundary Point nodes*

  P_N *is the proportion of the Scottish Interconnector flow associated with a given Boundary Point node*

  TLF_N *is half-hourly TLF at given Scottish Interconnector Boundary Point node*

- **Generating GSP Group-based Zonal TLFs:** for the geographical zones in which the Scottish Interconnector's terminal nodes lie, zonal TLFs would be calculated by weighting all nodal TLFs within those zones. For the Stella West and Harker nodes the weighting would be net of any apportioned Interconnector flow.
- **Time-weighting and Adjustment:** the half-hourly TLFs for each zones would then be time weighted and adjusted (i.e. factored by 0.5 in order to convert 'marginal' TLFs into 'average' TLFs) to produce 'Annual Adjusted' zonal TLFs.

[3] Note that 'Harker' there are three substations that equate to three nodes (i.e. Harker 400Kv, Harker 275Kv and Harker 132Kv) and each node shall be modelled as part of the Load Flow Model.

4.2 Proposed Methodology

According to the Proposer of P125, the methodology outlined in Section 4.1 is 'discriminatory' on two counts. First, BM Units associated with the Scottish Interconnector are treated differently from all other BM Units. Second, unlike other transmission loss zones, the Code text for Approved Modification P82 suggests that the Scottish Interconnector TLF Zone cannot be altered by the Panel and that a Modification Proposal would be required to change it. Moreover, a practical alternative methodology, which avoids such 'discrimination', is believed to exist.

The methodology proposed in P125 is based on the principle of 'apportioning' the power flows across the Scottish Interconnector between the Northern and North Western GSP Groups and then applying a composite of the two zonal TLFs generated for those two GSP Groups to Scottish Interconnector BM Units. The apportionment would be based on the historical power flows across the two sets of circuits (i.e. those feeding into the Northern and North Western TLF Zones) that comprise the Scottish Interconnector.

4.3 Design Issues

As submitted, P125 was a statement of a set of high-level principles which the Proposer felt ought to be embodied in the methodology used to calculate the zonal TLF applicable to Scottish Interconnector BM Units. The TLFMG considered four key design issues which would need to be resolved in any operational methodology based on the principles proposed under P125:

- **Value of the 'Apportionment Ratio':** how should the power flow across the Scottish Interconnector be split between its terminal nodes?
- **Derivation of the 'Apportionment Ratio':** should the ratio be set at the start of the introduction of zonal transmission loss arrangements or calculated from the Reference Year[4] data each year?
- **Flexibility of the 'Apportionment Ratio':** should the ratio be fixed or flexible?
- **Retention of a 'Thirteenth Zone':** should the concept of a thirteenth zone be retained? Or, should there simply be a thirteenth zonal TLF?

The 'apportionment ratio' is the ratio in which the aggregate power flow across the Scottish Interconnector is split between the terminal nodes of that Interconnector for the purpose of running the Load Flow Model used to generate TLFs. The TLFMG considered what would constitute an appropriate ratio and whether or not such a ratio should be flexible.

To establish an appropriate apportionment ratio, the TLFMG considered analysis provided by a TLFMG member which illustrated the split of the Scottish Interconnector flows between the relevant nodes derived from the data set proposed under Approved Modification P82 (see Annex 5). On the basis of this analysis, the TLFMG concluded that a 50:50 (Stella West:Harker[5]) apportionment of the Interconnector flow would be reasonable.

The TLFMG concluded that setting the ratio at the start of the arrangements would be more cost effective than the alternative of producing an annual ratio based on data from the preceding Reference Year. An annual calculation based on Reference Year data would require an extra report from the CDCA to ELEXON and the aggregation of relevant raw metered data to produce the individual circuit flows.

[4] The 'Reference Year' is the year used to identify the data loaded into the Load Flow Model under Approved Modification P82. It runs from 1 October to 30 September in the year prior to which the zonal TLFs are applicable.
[5] As noted previously, there are three nodes at 'Harker' (i.e. Harker 400Kv, Harker 275Kv and Harker 132Kv). Therefore, the actual ration would be 50:40:15:-5 (Stella West:Harker 400Kv:Harker 275Kv:Harker 132Kv).

These new aggregations would raise the cost and increase the time required to derive the ratio, with little enhancement of the accuracy of the resultant TLFs.

The TLFMG recognised that, if a one-off derivation of an apportionment ratio were to be adopted, no mechanistic calculation would be needed. However, it was felt that the Panel ought to be granted the ability to review the ratio, from time to time, based on historic circuit flows. This suggested that it would be appropriate to describe the apportionment required in the 'Network Mapping Statement'[6], rather than in the Code.

Finally, the TLFMG considered that there would be value in retention of the concept of a 'Thirteenth Zone', despite the fact that under P125 such a zone would not comprise any nodes. First, retention of the concept would retain consistency in the Network Mapping Statement - all BM Units would be assigned to a 'zone' for the purposes of allocating transmission losses. Second, publishing 13 zonal TLFs would retain the transparency introduced by Approved Modification P82 arrangements.

4.4 Need for Apportionment

The TLFMG noted that the need to apportion the power flow across the Scottish Interconnector between its terminal nodes existed in both the current and proposed methodologies at the input stage of load flow modelling. However, under P125, a second 'apportionment' would be required during the processing of the output of the load flow model. First, all nodes would be weighted by the overall flow at the node and then averaged by geographic zones, such that 12 zonal TLFs would be produced. A thirteenth TLF would then be derived by a weighted average of the two relevant zonal TLFs (Northern and North Western). The weighting would reflect the apportionment of Scottish Interconnector flow between the two zones which comprise the terminal nodes of that Interconnector and should be identical to the apportionment used at the input stage.

In conclusion, the TLFMG noted that apportionment, employing similar degrees of judgement to establish the ratio, is required under both Approved Modification Proposal P82 and P125.

4.5 Assessment against Applicable BSC Objectives

First, the TLFMG considered the implications of the current methodology for calculating the zonal TLF applicable to Scottish Interconnector BM Units.

An underlying feature of the zonal transmission loss arrangements introduced under Approved Modification P82 is that only England and Wales losses are being considered – there is no attempt in to reflect losses incurred outside the boundaries of the England and Wales transmission network. Therefore, from a total system perspective, the impact of Scottish Interconnector flows on transmission losses is identical, per unit of energy, to that of flows from any other BM Unit connected at the same nodes. However, under the current baseline, the treatment of Scottish Interconnector BM Units differs to that of any other BM Units connected at the same nodes. As a consequence, the zonal TLF applicable to Scottish Interconnector BM Units would differ from those that would apply to any other BM Units connected at the same nodes. For the Scottish Interconnector BM Units, the TLF would be a weighted average of the terminal nodes' nodal TLFs. For any other BM Units connected at those nodes, the applicable TLF would be the average of all the nodal TLFs of all nodes in the GSP Group based zone in question.

Secondly, the TLFMG considered the implications of the proposed methodology for calculating the zonal TLF applicable to Scottish Interconnector BM Units.

[6] The 'Network Mapping Statement' is a document, to be introduced as part of the Approved Modification P82 arrangements, which established the Volume Allocation Unit-to-Node, Node-to-Zone and Zone-to-BMU mapping relationships.

The TLFMG noted that P125 would alter the value of the zonal TLFs for the Northern and North Western zones. The inclusion of the power flows across the Scottish Interconnector in the weightings for the Stella West and Harker nodes would effect the zonal averages for those two zones. To quantify this impact, the TLFMG reviewed the modelling undertaken to support the assessment of Approved Modification Proposal P82. The modelling results suggest that the difference in Transmission Loss Multipliers (TLMs), which are derived from TLFs, for Scottish Interconnector BM Units and any other BM Units connected at the same node would be of an order of magnitude of approximately 10%:

TLM TYPE	I/C TLM	NORTHERN TLM	NORTH WESTERN TLM
Peak (Generation)	0.97658	0.98045	0.98314
Trough (Generation)	0.97688	0.98074	0.98343
Peak (Demand)	0.99289	0.99676	0.99944
Trough (Demand)	0.9916	0.99583	0.99851

On the basis of the foregoing observations, the TLFMG concluded that P125 would avoid exposing Scottish Interconnector BM Units to TLFs that were different to those attributed to any other BM Units connected to the same node. Thus P125 would allocate similar costs (relating to transmission losses) to all BM Units connected to the terminal nodes of the Scottish Interconnector, regardless of the type of BM Unit. As a consequence, P125 would better facilitate achievement of Applicable Objective (c):

'Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity.'

In addition, the TLFMG noted that Lead Parties of Scottish Interconnector BM Units have no control over the GSP Group into which their generation is directed or from which their consumption is drawn. The System Operator controls into which node (i.e. Stella West or Harker nodes) Scottish Interconnector power flows are routed to or sourced from. Therefore, no option to manipulate the routing of that flow to gain an advantageous TLF exists for Interconnector Users.

A minority of the TLFMG expressed the following argument as to why P125 might not better facilitate achievement of the Applicable BSC Objectives. The current baseline, as introduced by Approved Modification P82, effectively treats Scottish Interconnector BM Units as if they were located in a separate zone, to the North of all other zones. Therefore, given the predominantly North-South flow of power on the England and Wales transmission network, the existence of a separate zone for the Scottish Interconnector (with its associated TLF) could potentially reduce overall transmission losses by making generation from the Scottish Interconnector less attractive than generation located further South in the Northern and North Western zones.

However, the TLFMG concluded that a principle of zonal transmission losses arrangement under the Code ought to be that all BM Units attached to a node should receive, as far as possible, the same zonal TLF. Equal allocation of costs, on a per unit basis, is justified given that a Scottish Interconnector BM Unit has the same impact on transmission losses in England and Wales as any other BM Unit connected at the same node. Therefore, competition would be facilitated by exposing all such BM Units to the same costs.

The TLFMG considered whether Scottish Interconnector BM Units were the only BM Units for which apportionment would be required. The TLFMG concluded that this was the case, as it was only in respect of these BM Units that one GSP-based zone did not map onto one BM Unit. It was also noted that in respect of the mapping required at the input stage of the P82 process (in which Volume Allocation Units are mapped onto nodes), many-to-one, or one to one mapping was allowed under the

Code, but not one-to-many. This could be accommodated for all entities, using some judgement on the most appropriate allocation, apart from the Scottish Interconnector which could not reasonably be allocated to one node. The table below summarises the mapping relationships currently permitted under the Code:

Input Mapping		Output Mapping
Volume Allocation Unit to Node	Node to Zone	Zone to BMU
Many-to-One or One-to-One*	Many-to-One	One-to-Many**

* the exception is the Scottish Interconnector which is associated with several nodes

** the exception is the Scottish Interconnector which is associated with nodes in two zones

Finally, the TLFMG considered the second defect addressed by P125, the perception that the Panel's powers to change the 'Thirteenth Zone' differed from those associated with the twelve geographic zones. The TLFMG concluded that there would be merit in using the legal text drafted to give effect to P125 to remove any ambiguity on this issue, recognising that the intent had always been that the Panel's powers should be the same for all zones.

4.6 Implementation Date

The TLFMG concluded that P125 ought to be implemented at the same time as Approved Modification Proposal P82 (i.e. 1 April 2004), which is currently being implemented by the BSCCo CVA Programme. However, P125, by impacting common processes, would interact with this implementation project. Therefore, an early determination from the Authority is required. The later the determination, the greater the risk to the publication of zonal TLFs on 1 December 2003. As a consequence, a determination deadline of 15 August 2003 was recommended so as to minimise the risk to the publication date.

Zonal transmission loss arrangements are based on an annual cycle – i.e zonal TLFs will be applicable for a year and calculated on a yearly basis. Therefore, the TLFMG concluded that were the 15 August 2003 determination deadline missed, the implementation date ought to be 1 April 2005 where an Authority determination is received before 15 August 2004.

The TLFMG noted that all consultation responses indicated a preference for implementation P125 at the same time as Approved Modification P82, but that the issues associated with the timing of an Authority determination had not been raised or discussed in the consultation document issued.

The TLFMG considered three alternative implementation options which would have enabled the determination deadline to be relaxed. However, each was rejected as being undesirable. First, zonal TLFs based on the P82 methodology could be published first and followed by a revised set based on the P125 methodology at a later date. This option was discounted for reasons cited earlier, the additional cost associated with re-calculation and the uncertainty introduced into making contracts based on published TLFs. Second, the publication of zonal TLFs could be delayed beyond 1 December 2003. This option was rejected because the later publication date could adversely affect a participant's ability to negotiate contracts. Finally, the requirement to re-consult on the Network Mapping Statement could be foregone. This option was discounted because it undermined a key element of the P82 arrangements and would only provide an additional three weeks for the Authority to make a determination, at most. The TLFMG noted that each of the three alternative implementation options discussed would require additional Code changes.

5 IMPACT ON BSC AND BSCCO DOCUMENTATION

5.1 Balancing and Settlement Code

The following changes would be required to Section T of the Code:

- Clause 4.1 would need to be amended to reflect the requirement for 12 geographic zones and one non-geographic zone not comprising any nodes.
- Clause 4.3 would need to be amended to change the requirements for the Network Mapping Statement. The Network Mapping Statement would need to be amended to enable the Scottish Interconnector Volume Allocation Unit to map on to multiple nodes. This would provide the necessary instruction to the TLFA to apportion the Scottish Interconnector metered volume between the Harker and Stella West nodes, as part of the input processing for the running of the Load Flow Model.
- Clause 4.6, the existing clause dealing with the Scottish Interconnector, would be removed.
- A new clause would be required, providing the formula for the calculation of the thirteenth TLF embodying the following principle:

$$TLF_{13} = 0.50TLF_{6}+0.50TLF_{7}$$

Draft Code text to give effect to P125, endorsed by the TLFMG, is attached as Annex 1.

5.2 Code Subsidiary Documents

None identified.

6 IMPACT ON BSC SYSTEMS

No impact on BSC Systems identified has been identified. The TLFMG agreed with the recommendation that BSCCO would calculate the thirteenth TLF by combining the weighted averages of the zonal TLFs for the Northern and North Western zone.

7 IMPACT ON BSCCO

The following impacts on BSCCo have been identified:

- **Calculation of the Thirteenth Transmission Loss Factor:** BSCCo estimates that this requirement would necessitate 10 man-days of effort. It should be noted that calculation of the thirteenth zonal TLF by BSCCo would not necessarily be an enduring solution – for example, the calculation could be performed by the Transmission Loss Factor Agent (TLFA) in the future.
- **Expand BSC Audit Scope to Cover Calculate of Thirteenth Transmission Loss Factor:** BSCCo estimates that this requirement would necessitate 2 man-day's effort.
- **Amendment of Network Mapping Statement:** BSCCo estimates that this requirement would necessitate 10 man-days of effort.
- **Amendment to Transmission Loss Factor Agent Contract:** were an enduring solution in which the TLFA calculated the thirteenth zonal TLF implemented, the contract with that agent might need to be amended and the associated documentation amended accordingly.

8 IMPACT ON PARTIES AND PARTY AGENTS

None identified. P125 was issued for impact assessment by Parties and Party Agents, two responses were received, both from BSC Parties. Both indicated that there would be no impact on either their systems or processes.

The responses received are attached as Annex 3 of this report.

9 CONSULTATION RESPONSES

A consultation document and questionnaire was issued to the industry on 8 May 2003, with a 22 May 2003 deadline for responses. Ten responses (representing 48 BSC Parties and 2 Non-Parties) were received. Nine of the responses are attached as Annex 2 of this report. The author of the tenth response requested that its name be kept confidential and that the comments therein attributed to an anonymous respondent. As consequence, this response has been excluded from Annex 2, but its contents are summarised below.

9.1 Summary of Representations

Respondents were asked three questions and invited to comment on the draft legal text provided.

First, respondents were asked whether or not they believed P125 would better facilitate achievement of the Applicable BSC Objectives. The table below summarises the responses received.

Q.1. Would P125 better facilitate achievement of the Applicable BSC Objectives?	
Yes	6 (31 BSC Parties & 1 Non-Party)
No	3 (16 BSC Parties & 1 Non-Party)
No Comment	1 (1 BSC Party)

The principle argument provided in support of P125 was that it would better facilitate achievement of Applicable BSC Objective (c)[7], the promotion of competition in the electricity market, by treating all BM Units in an identical fashion. All BM Units attached to the same nodes, including Scottish Interconnector BM Units, should be treated equally because they have the same impact on transmission losses on the England and Wales network. A secondary argument in support of P125 was also provided; that it would better facilitate achievement of Applicable BSC Objective (d)[8], efficient administration and implementation of the balancing and settlement arrangements, by simplifying the unnecessarily complex methodology introduced by Approved Modification P82.

The main argument provided in opposition to P125 was as follows. P125 would disadvantage generators located in the transmission loss zones corresponding to the Northern and North Western GSP Groups by adding to their costs, despite the fact that such generators cause less systems losses per unit of energy than energy delivered through the Scottish Interconnector.

A secondary, and related, argument in opposition to P125 was also made. The current methodology, effectively, treats the Scottish Interconnector as being located in a zone further North than any other. As a consequence, importing across the Interconnector may be discouraged and total system losses fall as result because more southerly generation would be used in preference. The respondent who

[7] Applicable BSC Objective (c) is as follows: "Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity".
[8] Applicable BSC Objective (d) is as follows: "Promoting efficiency in the implementation and administration of the balancing and settlement arrangements".

expressed this argument, cited as an example of when 'discrimination' may not necessarily be undesirable.

Second, respondents were asked whether or not they agreed with the TLFMG view that Scottish Interconnector flows ought to be apportioned evenly between the transmission loss zones based on the Northern and North Western GSP Groups. The table below summarises the responses received.

Q.2. Do you agree with the TLFMG that a 50:50 apportionment ratio is appropriate?	
Yes	8 (47 BSC Parties & 1 Non-Party)
No	1 (1 Non-Party)
No Comment	1 (1 BSC Party)

A majority of respondents supported dividing the power flow across the Scottish Interconnector evenly between the Northern and North Western zones. Respondents were of the opinion that the derivation of such a ratio (i.e. from historical data from a reference year) was consistent with the reference year proposed under Approved Modification Proposal P82. Several respondents indicated that they supported such a ratio provided that the Panel had the ability to review and change it. One respondent noted that a one-off derivation would be more cost effective than an annual derivation.

One respondent indicated that they did not support the proposed apportionment ratio because the existing methodology for generating a TLF for Scottish Interconnector BM Units was preferable.

Finally, respondents were asked whether or not they supported the proposed implementation date of 1 April 2004. The table below summarises the responses received.

Q.3. Do you agree with the TLFMG the implementation date should be 1 April 2004?	
Yes	10 (87 BSC Parties & 2 Non-Parties)
No	0
No Comment	0

All respondents supported a 1 April 2004 implementation date, such that it would coincide with the implementation of Approved Modification Proposal P82.

Two respondents commented on the draft legal text provided in the consultation document, questioning whether a thirteenth zone, rather than just a thirteenth TLF, would be necessary under P125.

9.2 TLFMG Assessment of Representations

The TLFMG noted the arguments put forward in each consultation response. Given that no new arguments were raised, the conclusion of the majority of the TLFMG was that P125 better facilitated achievement of the Applicable BSC Objectives and that it should be implemented at the same time as P82.

10 SUMMARY OF TRANSMISSION COMPANY ANALYSIS

An impact assessment of P125 was requested from the Transmission Company, the assessment provided is attached as Annex 4 of this report.

In summary, the Transmission Company indicated that would impact neither its ability to discharge its licence obligations nor any of its systems or processes. Therefore, no specific lead-time would be required by the Transmission Company to implement P125.

11 PROJECT BRIEF

The TLFMG recommends that P125 should be implemented as part of the existing implementation project for Approved Modification P82 where an Authority determination is received no later than 15 August 2003.

Implementation of P125 would incur no third party costs. However, BSCCo would have to perform the following activities at the following costs:

- **Calculation of the Thirteenth Transmission Loss Factor:** BSCCo estimates that this requirement would necessitate 10 man-days of effort. It should be noted that calculation of the thirteenth zonal TLF by BSCCo would not necessarily be an enduring solution – for example, the calculation could be performed by the Transmission Loss Factor Agent (TLFA) in the future.
- **Expand BSC Audit Scope to Cover Calculate of Thirteenth Transmission Loss Factor:** BSCCo estimates that this requirement would necessitate 2 man-day's effort.
- **Amendment of Network Mapping Statement:** BSCCo estimates that this requirement would necessitate 10 man-days of effort.

ANNEX 1 – PROPOSED TEXT TO MODIFY THE BSC

See separate attachment.

ANNEX 2 – CONSULTATION RESPONSES

See separate attachment.

ANNEX 3 – PARTY IMPACT ASSESSMENTS

Responses for MC00050

DLIA of P125

Responses due 22 May 2003

Organisation	Comments
Steve Drummond EdF (Generation) and EdF Trading Ltd	What impact, if any, will the Proposed Modification have on your organisation? **NIL** What implementation timescale, if applicable, would your organisation require to implement the changes associated with the Proposed Modification? **It should be implemented with P82.** If this Modification Proposal is not applicable to your organisation, please indicate why (e.g. proposed changes do not apply to Party Agents). Any other comments:
Rachael Gardener Aquila Networks	No comment
John Russell Scottish Power	What impact, if any, will the Proposed Modification have on your organisation? *Proposed Modification P125 will not have any impact on our systems and processes additional to that for P82.* What implementation timescale, if applicable, would your organisation require to implement the changes associated with the Proposed Modification? *The implementation of Proposed Modification P125 can be incorporated into that for P82.* If this Modification Proposal is not applicable to your organisation, please indicate why (e.g. proposed changes do not apply to Party Agents). *This modification is applicable and supported by ScottishPower.* Any other comments: *No further comment.*

ANNEX 4 – TRANSMISSION COMPANY ANALYSIS

Q	Question	Response
1	Please outline any impact of the Proposed Modification (and, if applicable, any Alternative Modification) on the ability of the Transmission Company to discharge its obligations efficiently under the Transmission Licence and on its ability to operate an efficient, economical and co-ordinated transmission system.	We believe that the implementation of P125 has no impact on the ability of the Transmission Company to discharge its obligations under the Transmission Licence.
2	Please outline the views and rationale of the Transmission Company as to whether the Proposed Modification (and, if applicable, any Alternative Modification) would better facilitate achievement of the Applicable BSC Objectives.	We support the rationale of the Mod Group that P125 would avoid exposing the Scottish Interconnector BM Units to TLFs that were different to those attributed to any other BM Units connected to the same node. In addition, P125 would allocate similar costs to all BM Units connected to the terminal nodes of the Scottish Interconnector, regardless of the type of BM Unit. Therefore P125 would better facilitate the achievement of Applicable Objective C.
3	Please outline the impact of the Proposed Modification (and, if applicable, any Alternative Modification) on the computer systems and processes of the Transmission Company, including details of any changes to such systems and processes that would be required as a result of the implementation of the Proposed Modification (and, if applicable, any Alternative Modification	There is no direct impact on our systems and processes as a result of the proposed modification. We do not believe that there is a specific lead-time required for us to be able to implement P125.
4	Please provide an estimate of the development, capital and operating costs (broken down in reasonable detail) which the Transmission Company anticipates that it would incur in, and as a result of, implementing the Proposed Modification (and, if applicable, any Alternative Modification).	None identified.
5	Please provide details of any consequential changes to Core Industry Documents that would be required as a result of the implementation of the Proposed Modification (and, if applicable, any Alternative Modification).	None identified.
6	Any other comments on the Proposed Modification (and Alternative Modification if applicable).	None

ANNEX 5 – MODIFICATION GROUP PAPERS

See separate attachment.