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08 August 2003

The National Grid Company, BSC Signatories and
Other Interested Parties

Our Ref: MP No P125

Dear Colleague

Modification to the Balancing and Settlement Code ("BSC") - Decision and Direction in relation to Modification Proposal P125: "Apportionment of the Scottish Interconnector Flows to the Northern and North Western GSP Groups for the Purposes of Calculating Losses"

The Gas and Electricity Markets Authority (the "Authority")[1] has carefully considered the issues raised in the Modification Report[2] in respect of Modification Proposal P125, "Apportionment of the Scottish Interconnector Flows to the Northern and North Western GSP Groups for the Purposes of Calculating Losses".

The BSC Panel (the "Panel") recommended to the Authority that the Modification Proposal should be made.

Having carefully considered the Modification Report and the Panel's recommendation and having regard to the Applicable BSC Objectives and the Authority's wider statutory duties[3], the Authority has decided to direct a Modification to the BSC in line with the Modification Proposal P125.

This letter explains the background and sets out the Authority's reasons for its decision. In addition, the letter contains a direction to The National Grid Company plc ("NGC") to modify the BSC in line with Modification Proposal P125, as set out in the Modification Report.

This letter constitutes the notice by the Authority under section 49A Electricity Act 1989 in relation to the direction.

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[1] Ofgem is the office of the Authority. The terms "Ofgem" and "the Authority" are used interchangeably in this letter.
[2] ELEXON document reference P125MR, Version No. 1.0, dated 16 July 2003
[3] Ofgem's statutory duties are wider than the matters that the Panel must take into consideration.

Background

Some electricity is used up in the process of its transportation from power plants to electricity consumers. The electricity lost on the transmission network is commonly referred to as "transmission losses".

On 17 January 2003, the Authority approved Modification Proposal P82 "Introduction of zonal transmission losses on an average basis", which will replace the current uniform charging for transmission losses. In accordance with Approved Modification P82, ELEXON[4] will appoint a Transmission Loss Factor Agent to calculate zonal Transmission Loss Factors ("TLFs") that will be fixed in advance for a year at a time (April to the following March). The method for calculating the TLFs is defined in the BSC and will have the following features:

- the TLFs will be calculated using a Direct Current ("DC") load flow modelling technique;
- the initial calculation will involve estimating nodal marginal factors based on network configuration data for a representative collection of historic power system conditions during the previous year from January to December;
- the nodal marginal factors will be converted to zonal marginal factors by volume-weighted averaging, with the zones for both generation and demand corresponding to the current Grid Supply Point ("GSP") Groups[5]. There are currently twelve GSP Groups;
- the Settlement Period zonal marginal factors will be converted to annual zonal marginal factors by time-weighted averaging; and
- the annual zonal marginal factors will be scaled by a factor of 0.5 to create the final TLFs.

The TLFs calculated in this fashion will be used in the calculation of the Transmission Loss Multipliers ("TLMs"), as described in section T.2.3 of the BSC. As at present, the TLMs will be multiplied with the metered volumes of generators and suppliers to adjust for transmission losses.

The interconnector between the Scottish transmission systems and the England and Wales transmission system (the "Scottish Interconnetor") comprises several circuits which connect to the England & Wales transmission system at both Stella West which lies in the Northern GSP Group and Harker which lies in the North Western GSP Group. Under Approved Modification P82, the Scottish Interconnetor is deemed to lie in a separate thirteenth TLF zone. The TLF for this zone is based on the nodal TLFs at the nodes where the Scottish Interconnector circuits connect. Under P82 the TLF zone for the Scottish Interconnector can only be changed by way of a Modification Proposal, whereas all other TLF zones can be changed by the BSC Panel.

[4] ELEXON is the BSC Co.
[5] See Section X, Annex X-1: general Glossary of the BSC

On 31 March 2003, Scottish and Southern Energy plc (the "Proposer") raised Modification Proposal P125, "Apportionment of the Scottish Interconnector Flows to the Northern and North Western GSP Groups for the Purposes of Calculating Losses".

The Proposer considered that the methodology of having a non-physical thirteenth TLF zone, to apply only to the Scottish Interconnector, is incorrect, unnecessary and discriminatory and that a better, more efficient, solution would be to apportion the Scottish Interconnector between the Northern and North Western TLF zones. The Proposer considered that the Modification Proposal would better facilitate achievement of Applicable BSC Objectives[6] (b), (c) and (d) as set out in Supplementary Standard Condition C3 (3) of the transmission licence.

The Panel considered the Initial Written Assessment at its meeting on 10 April 2003, and decided that the Modification Proposal should be submitted to a two month Assessment Procedure. The Panel determined that the Transmission Loss Factor Group (the "Group") should assess the Modification Proposal.

The Modification Proposal

Modification Proposal P125 seeks to modify the BSC to place the treatment of the Scottish Interconnector on an equitable footing with the other TLF Zones. The Modification Proposal seeks to apportion the metered volumes associated with the Scottish Interconnector between the two GSP Groups which it is connected to and apply a composite TLF to the Scottish Interconnector based on the TLFs for these two zones.

The Group considered what Apportionment Ratio[7] to use to allocate power flows across the Scottish Interconnector to the two terminal TLF zones. The Group considered that a 50:50 Apportionment Ratio between the Stella West and Harker nodes would be appropriate[8]. This

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[6] The Applicable BSC Objectives, as contained in Supplementary Standard Condition C3(3) of National Grid Company's Transmission Licence, are:

a) the efficient discharge by the licensee of the obligations imposed upon it by this licence;
b) the efficient, economic and co-ordinated operation by the licensee of the licensee's transmission system;
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;
d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements;
e) without prejudice to the foregoing objectives and subject to paragraph 3A, the undertaking of work by BSCCo (as defined in the BSC) which is:
   (i) necessary for the timely and effective implementation of the proposed British Electricity Trading and Transmission Arrangements (BETTA); and
   (ii) relevant to the proposed GB wide balancing and settlement code;
   and does not prevent BSCCo performing its other functions under the BSC in accordance with its objectives.

[7] The Apportionment Ratio is the ratio in which the aggregate power flow across the Scottish Interconnector is split between the terminal nodes of the Scottish Interconnector for the purposer of running the Load Flow Model used to generate TLFs.

[8] There are three nodes at Harker (Harker 400kV, Harker 275kV and Harker 132kV). The actual ratio would be 50:40:15:-5 (Stella West:Harker 400kV:Harker 275kV:Harker 132kV).

decision was informed by analysis, provided by a Group member, of historic power flows over the Scottish Interconnector.

The Group considered whether the Apportionment Ratio should be fixed at a pre-determined level when zonal transmission losses are introduced or whether the ratio should be calculated from the "Reference Year"[9] data each year. The Group considered whether an extra report from the Central Data Collection Agent to calculate an annual Apportionment Ratio is required. The Group considered that this would raise the cost and increase the time required to derive the Apportionment Ratio with little increase in the accuracy of the resultant TLFs. The Group therefore concluded that it would be more cost-effective to initially fix the Apportionment Ratio which would be contained in the Network Mapping Statement[10] . However, the Panel would be required to review the Apportionment Ratio from time to time.

The Group considered whether the concept of a thirteenth zone should be retained or whether there should just be a thirteenth TLF. Although there would be no physical nodes in the thirteenth zone the Group considered that the concept of a thirteenth TLF zone should be retained. The Group considered that retaining the concept of a thirteenth zone would retain the consistency in the Network Mapping Statement where all BM Units would be assigned to a zone for the purposes of allocating transmission losses. The Group also highlighted that, by publishing thirteen zonal TLFs, it would retain the transparency introduced by Approved Modification P82.

A majority of the Group considered that under the arrangements to be introduced with Approved Modification P82, the Scottish Interconnector BM Units would be treated differently compared to other BM Units connected to the same node, as a separately calculated TLF would apply to the Interconnector BM Units. Based on analysis undertaken as part of the Assessment of Approved Modification P82, the Group concluded that the difference in the TLFs for the Scottish Interconnector BM Units and any other BM Units connected to the same node could be of the order of approximately 10%. The majority of the Group considered that the impact on transmission losses of the flow of power from Scottish Interconnector BM Units and any other BM Units connected to the same node is the same and that Modification Proposal P125 would lead to more equitable treatment of Scottish Interconnector BM Units. The majority of the Group therefore considered that Modification Proposal P125 would better facilitate the achievement of Applicable BSC Objective (c).

A minority of the Group opposed the majority view, and considered that Modification Proposal P125 would not better facilitate the achievement of the Applicable BSC Objectives. The minority of the Group considered it appropriate that there should be a separate zone for the Scottish Interconnector as provided in Approved Modification P82. The minority of the Group considered that as the flow of electricity is pre-dominantly from North to South, retaining a

[9] 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.

[10] The Network Mapping Statement will be introduced with Approved Modification P82. It will set out the Volume Allocation from BM Unit to Node, Node to TLF zone and TLF zone to BM Unit mapping relationships.

separate TLF zone for the Scottish Interconnector would encourage generation to locate in the South, and consequentially reduce the amount of transmission losses.

The Group did not attempt a cost-benefit analysis. However, it was noted that implementation costs would be minimal as neither BSC Systems nor BSC Party systems would be impacted. The impact would be restricted to ELEXON, and require 22 days of effort by one person.

ELEXON published a draft Modification Report on 19 June 2003, which invited respondents' views by 2 July 2003.

Respondents' views

ELEXON received six responses to the consultation on the draft Modification Report. Four respondents expressed support for the Modification Proposal, one respondent did not support the Modification Proposal and the remaining respondent replied with "no comment".

All five respondents that commented on the implementation date agreed that the Modification Proposal should be implemented on 1 April 2004, coincidental with Approved Modification P82.

All respondents in favour of the Modification Proposal agreed that the Modification Proposal would better facilitate achievement of Applicable BSC Objective (c) as it would ensure more equitable treatment of the Scottish Interconnector BM Units compared to other BM Units connected to the Scottish Interconnector termination nodes.

One of these respondents also considered that the Modification Proposal would better facilitate achievement of Applicable BSC Objective (b) by removing a cross-subsidy flowing from the Scottish Interconnector BM Units to the other BM Units in the two GSP groups where the Scottish Interconnector connects. This respondent also considered the Modification Proposal would better facilitate achievement of Applicable BSC Objective (d) by allowing the BSC to be given effect as economically and efficiently as is reasonably practicable.

The respondent opposed to the Modification Proposal considered that although the terminal nodes of the Scottish Interconnector are located in the North and North Western GSP groups, the generation providing the power flowing from Scotland to England and Wales is not located there. This respondent considered that the arrangements under Approved Modification P82 reflect this and that a separate zonal loss factor for the Scottish Interconnector should be maintained.

The respondents' views are summarised in the Modification Report for Modification Proposal P125, which also includes the complete text of all respondents' replies.

Panel's recommendation

The Panel met on 10 July 2003 and considered the Modification Proposal, the draft Modification Report, the views of the Group and the consultation responses received.

The Panel recommended that the Authority should approve the Proposed Modification and that, if approved, it should be implemented on1 April 2004 if an Authority decision is received no later than 15 August 2003, and 1 April 2005 if an Authority decision is received after 15 August 2003 but before 15 August 2004.

The Panel considered that the current methodology for calculating the TLF for the Scottish Interconnector implies that the BM Units that flow electricity over the Scottish Interconnector have a different impact on transmission losses compared to other BM Units connected to the transmission network at the same point. The Panel considered this to be incorrect and that electricity imported or exported across the Scottish Interconnector has the same impact on transmission losses on the England and Wales transmission system per unit of electricity as electricity drawn off or delivered by any other type of BM Unit attached to the same nodes as the Scottish Interconnector. The Panel considered that all BM Units attached to the same nodes should be treated similarly for the purposes of calculating and assigning TLFs. The Panel therefore considered that the Modification Proposal would better facilitate achievement of Applicable BSC Objective (c).

Ofgem's view

Having carefully considered the Modification Report and the Panel's recommendation, Ofgem considers, having regard to the Applicable BSC Objectives and its statutory duties, that Proposed Modification P125 will better facilitate achievement of the Applicable BSC Objectives.

Applicable BSC Objective (a) - the efficient discharge by the licensee (NGC) of the obligations imposed upon it by this licence.

NGC has a range of statutory duties and licence obligations which include ensuring the efficient, economic and co-ordinated operation of the system, the facilitation of competition[11] and non-discrimination[12]. Ofgem considers the Modification Proposal would better facilitate NGC's discharge of its non-discrimination obligation and its obligation to facilitate competition (discussed under a separate heading below).

Ofgem considers it may be discriminatory to treat the Users of the Scottish Interconnector differently to other Users that are connected to the same terminal nodes as the Scottish Interconnector. Ofgem also considers this may lead to cross-subsidisation between the Scottish Interconnector Users and England and Wales Users in the two northernmost GSP groups. Ofgem considers the Modification Proposal would remove this potential discriminatory treatment of Scottish Interconnector Users. Ofgem therefore considers the Modification Proposal will better facilitate achievement of Applicable BSC Objective (a).

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.

[11] Section 9 (2) (b) of the Electricity Act 1989.
[12] Condition C7C of the Transmission Licence.

In its decision letter for Approved Modification P82, Ofgem considered that introducing differential charging for transmission losses could promote effective competition in the generation and supply of electricity. However, as pointed out above, Parties using the Scottish Interconnector may be treated differently to Parties that connect to the same terminal nodes as the Scottish Interconnector connects to. Ofgem considers such difference in treatment of Parties physically connecting to the same node to potentially be harmful to competition in the generation and supply of electricity. Ofgem agrees with the majority of the Group and the Panel that the Proposed Modification would lead to a more equitable treatment for the purposes of charging transmission losses for Scottish Interconnector Users. Therefore, Ofgem considers that Modification Proposal would better facilitate achievement of Applicable BSC Objective (c).

In summary, Ofgem considers that the Modification Proposal will better facilitate the achievement of the Applicable BSC Objectives (a) and (c).

There are further modification proposals currently in assessment which may relate to the subject of this decision. As with all modifications, the Authority's decision on Modification Proposal P125 will in no way fetter its discretion as regards any further proposals that may come to it for determination in the future.

The Authority's decision

The Authority has therefore decided to direct that the Proposed Modification P125, as set out in the Modification Report, should be made and implemented.

Direction under Condition C3 (5) (a) of NGC's Transmission Licence

Having regard to the above, the Authority, in accordance with Condition C3 (5) (a) of the licence to transmit electricity granted to NGC under Section 6 of the Electricity Act 1989 as amended (the "Transmission Licence"), hereby directs NGC to modify the BSC as set out in the Modification Report for the Proposed Modification.

The Implementation Date for Modification Proposal P125 is 1 April 2004.

In accordance with Condition C3 (5) (b) of NGC's Transmission Licence, NGC shall modify the BSC in accordance with this direction of the Authority.

Please contact me on the above number if you have any questions in relation to this letter.

Yours sincerely

Sonia Brown
Director, Electricity Trading Arrangements
Signed on behalf of the Authority and authorised for that purpose by the Authority