Modification Proposal	**MP No: 105** *(mandatory by BSCCo)*

Title of Modification Proposal *(mandatory by proposer)***:**

Introduction of Zonal Transmission Losses on a Marginal Basis without Phased Implementation

Submission Date *(mandatory by proposer)***:** 24 October 2002

Description of Proposed Modification *(mandatory by proposer)***:**

The modification proposes that transmission losses are allocated on a zonal rather than on a uniform system wide basis. Currently under Section T2 of the BSC, Transmission Loss Factors (TLF_{ij}) for all BMUs in all settlement periods are set to zero.

It is proposed that a Transmission Loss Factor Agent (TLFA) be appointed to calculate zonal marginal monthly TLFs for each BMU on an ex ante basis. Elexon would procure the TLFA service from a third party and they would determine TLFs in accordance with the Transmission Loss Factor Methodology (TLFM), which would be set out under the BSC. The key features of this approach are outlined below and this is consistent with a proposed P75 alternative developed and considered by the Transmission Loss Factor Methodology Group (TLFMG) and is to be fully described in the P75 Assessment Report to be submitted to the November 2002 BSC Panel:

- TLFM would be a 'fully marginal' and defined within the BSC.
- Ex ante calculation of monthly TLFs using actual demand and generation data from the relevant month in the previous year. There would be no scaling of TLFs.
- Zonal groupings would be TNUoS zones for generation and GSP Groups for demand.
- A DC load flow model used for derive marginal TLFs.
- Network configuration data based on an intact (historic) network.
- Explicit mapping rules to convert metered volumes into nodal metred volumes.
- Conversion of nodal TLFs to zonal TLFs on a 'volume-weighted' average basis.
- Conversion of half-hourly TLFs into monthly TLFs on a 'time-weighted average basis.
- The resulting zonal marginal TLF data would be submitted to Elexon and Transmission Loss Multipliers (TLMs) would then be calculated in accordance with Section T2.3.1 of the BSC.

Although this proposal preserves the full marginal loss signals from the network modelling, adjustments ($TLMO^{+}_{j}$ and $TLMO^{-}_{j}$) under T2.3.1 ensure Transmission Loss Multipliers (TLM_{ij}) recover the correct volume of total system losses in each settlement period. This uniform adjustment is considered more appropriate than any non-uniform scaling of TLFs, advocated in some quarters, that simply seeks to dampen (or attenuate) the marginal loss signals to roughly recover the correct volume of total system losses.

Governance of future changes to Transmission Loss Factor Methodology (TLFM)

Given the commercial importance of transmission losses, changes to the fundamental principles underpining the TLFM would only be permitted by means of a modification proposal[1]. As such changes could only be proposed

[1] An exception to this would be in the definition of TNUoS zones where it is necessary to give the BSC Panel discretion to update zonal boundaries, to ensure there is consistency with NGCs transmission charging arrangements.

Modification Proposal	MP No: 105 *(mandatory by BSCCo)*

according to the 'normal' modification rules by energywatch, market participants or NGC. This together with incorporation of the TLFM within the BSC will ensure a rigorous appraisal of any future proposed changes to the losses regime.

Description of Issue or Defect that Modification Proposal Seeks to Address *(mandatory by proposer)***:**

Currently the cost of transmission losses is not accurately targeted at BSC Parties that are to a greater or lesser extent contributing to those losses.

By introducing a zonal differentiation in the allocation of losses the proposal will provide appropriate locational signals to parties which will help reduce overall transmission losses in the short-term and encourage more optimal siting of generation and demand in the longer-term. Adoption of a marginal approach ensures that robust economic signals are provided to relevant users.

The current uniform approach to allocation of transmission losses fails to provide appropriate cost signals. It effectively provides hidden cross-subsidies for northern generation and southern demand, whilst unfairly placing additional costs on southern generation and northern demand. The industry has been aware of this long-standing distortion at the heart of electricity trading arrangements, from the inception of the England and Wales Electricity Pool. Indeed OFFER in its 1989 Annual Report stated that their should be locational pricing for the use of NGC's transmission system and made it clear that it envisaged transmission losses should include locational signals.

In 1997 the Pool Executive Committee approved a scheme for the zonal allocation of the cost of transmission losses. Although the project was shelved in the run up to NETA, Ofgem made clear that the issue would be revisited after NETA implemetation. The subject has also been discussed at length in various Ofgem Transmission Access and Losses consultation documents dated December 1999, May 2001 and February 2002.

The proposal seeks to address the issue/defect outlined above immediately. Any form of phased implementation is not considered appropriate as this would simply delay fully addressing the issue/defect, and hence full realisation of the benefits of the proposal.

Impact on Code *(optional by proposer)***:**

See P75 Assessment Report and DLIA.

Impact on Core Industry Documents *(optional by proposer)***:**

See P75 Assessment Report and DLIA.

Impact on BSC Systems and Other Relevant Systems and Processes Used by Parties *(optional by proposer)***:**

See P75 Assessment Report and DLIA.

Impact on other Configurable Items *(optional by proposer)***:**

See P75 Assessment Report and DLIA.

Modification Proposal	**MP No: 105** *(mandatory by BSCCo)*

Justification for Proposed Modification with Reference to Applicable BSC Objectives *(mandatory by proposer)***:**

The proposal more accurately targets the cost of transmission losses. In so doing it removes the cross-subsidies inherent in the current method for allocation of transmission losses between BSC participants, and hence helps ensure effective competition in the generation and supply of electricity.

The short-term effects are likely to be a reduction in the overall cost of system losses, although the longer-term efficiency gains in terms of influencing the locational patterns of generation and supply are likely to be more significant. Overall, this should assist the Transmission Company in the efficient, economic and co-ordinated operation of the Transmission System.

It is particularly important that the likelihood of inefficient locational choices, such as closure of generation plant in the south in preference to equivalent plant in the north are minimised, by ensuring this proposal is implemented at the earliest practical implementation date.

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Attachments: **No**