June 2002

INITIAL ASSESSMENT OF MODIFICATION PROPOSAL P85 - A Phased Implementation Scheme for Changes to TLF in Section T of the Code

Prepared by ELEXON Limited

Document Reference	IWA P085
Version no.	1.0
Issue	1
Date of Issue	7 June 2002
Reason for Issue	Decision
Author	ELEXON

I DOCUMENT CONTROL

a Authorities

Version	Date	Author	Signature	Change Reference
0.1	05.06.02	Roger Salomone		Initial Draft
1.0	06.06.02	Roger Salomone		Final Version

Version	Date	Reviewer	Signature	Responsibility
0.1	06.06.02	Chris Rowell		Peer Review
1.0	07.06.02	BSC Panel		Decision

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

Modification Proposal P85 ('the Modification') seeks to address a perceived lack of stable signals for long-term investment and the potential stranding of sunk costs were the Transmission Loss Factor (TLF) value in the BSC to change from its current value of zero. To this end, the Modification recommends embedding a transition scheme for the TLF value in the BSC. Under the scheme, any future change to the value of TLF would be phased-in progressively over time.

The proposed transition scheme, applicable to both generation and consumption, is based on allocating transmission losses to BM Units on a mixed basis – a fixed quantity of production/consumption would be allocated losses as at present (i.e. a pro-rata allocation equal to 45% or 55% of average losses respectively) and the remainder (i.e. the difference between that fixed quantity and actual production/consumption) would be allocated losses in accordance with the relevant new TLF.

The transitional element would be given effect by introducing a factor which would move gradually from 1 to 0 over time. The factor would be used to scale down the fixed quantity, thus using the new TLFs to allocate losses to an increasing proportion of a BM Unit's production or consumption.

An initial assessment of the Modification has identified the following potential areas of impact and issues to be considered:

- The proposed transitional scheme would have to be drafted into Section T2 of the BSC.
- The SAA may have to assume additional calculations entailed by phased implementation scheme (i.e. uniform allocation of losses to a fixed portion of a BM Unit's metered volume and application of the relevant TLF to the remainder).). Therefore, the necessary system and process changes would need to be specified as part of this Modification and, were the Modification made, implemented to meet the eventuality of a change to the TLF value.
- Settlement reporting may need to include a break-down, by BMU, between uniform allocation of losses and allocation by TLF.
- The Panel would need to make decisions regarding the initial level of the 'fixed quantity' element to which uniform transmission losses would be applied and the rate at which it is scaled down over time, unless the factor and its rate of change were pre-specified in the BSC. The decision-making process to be followed by the Panel might need to be drafted into the BSC. Alternatively, both the initial quantity and the scaling schedule could be drafted directly into the BSC.
- Clarify whether the fixed quantity 'F', referred to in the Modification, is a fixed MWh value or a percentage. This issue could implications for new reporting requirements (e.g. a percentage might require a register of the fixed quantity allocated to each BM Unit) and the Panel decision-making process (e.g. setting a fixed MWh value applicable to all BM Units, regardless of the level of production or consumption, could be more problematic than setting a percentage).

It is recommended that the Modification Proposal is progressed as follows:

- **Submitted to a three-month Assessment Procedure, with an Assessment Report to be presented at the 12 September 2002 Panel meeting;**
- **The Assessment Procedure should be conducted by the already established Transmission Loss Factor Modification Group (TLFMG).**

The Modification is clear and well defined, and therefore, should be submitted directly to the Assessment Procedure. A three-month Assessment Procedure would provide sufficient time for market participants to be consulted, necessary changes to SAA systems and processes specified, and for a Detailed Level Impact Assessment (DLIA) to be carried out by the SAA. The TLFMG is the most appropriate Modification Group to take the progress the proposal, it contains the relevant expertise and the terms of reference for each of the two zonal tranmission losses proposals it is currently assessing stipulate that the TLFMG must assess *"the impact of phasing in the Modification Proposal over time"*.

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

3 PURPOSE AND SCOPE OF THE REPORT

Section F of the BSC sets out the procedures for progressing proposals to amend the BSC (known as 'Modification Proposals'. These include procedures for proposing, consulting on, developing, evaluating and reporting to the Authority on potential modifications.

The BSC Panel is charged with supervising and implementing the modification procedures. ELEXON provides the secretariat and other advice, support and resource required by the Panel for this purpose. In addition, if a modification to the Code is approved or directed by the Authority, ELEXON is responsible for overseeing the implementation of that amendment (including any consequential changes to systems, procedures and documentation).

When a new proposal to modify the BSC is made, it is the responsibility of the Panel to determine how it should be progressed. Options include submitting the proposal to a Definition Procedure[1], submitting it to an Assessment Procedure[2], amalgamating the proposal with another proposal[3], or proceeding directly to the Report Phase[4]. With a view to assisting the Panel in taking this decision, ELEXON prepares this initial written assessment of the implications of the Modification Proposal as soon as reasonably practicable after the proposal is made[5]. ELEXON endeavours to complete this initial assessment such that it can be reviewed by the Panel at the Panel meeting at which the relevant Modification Proposal is first to be considered.

This initial assessment provides a preliminary view on the following:

- the potential impact of the proposed modification on BSC systems and processes;
- the potential impact of the proposed modification on other systems and processes used by Parties;
- the potential impact of the proposed modification on the BSC, Code Subsidiary Documents and Core Industry Documents;
- the potential impact of the proposed modification on ELEXON;
- the potential impact of the proposed modification on BSC financial arrangements and budget;
- the potential impact of the proposed modification on BSC Agent contractual arrangements;
- The process and timetable that should be adopted for the progression of the Modification Proposal, in light of its complexity, importance and urgency; and
- Issues that will need to be considered and addressed in progressing the Modification Proposal (including the potential need for impact assessments, consultation and analyses).

It should be noted that, as this document only represents a preliminary assessment of the Modification Proposal, the information contained herein will, in most cases, be superseded by the subsequent analysis and reports produced by the Modification Group to which the Panel assigns the proposal for consideration.

[1] see BSC F2.5
[2] see BSC F2.6
[3] see BSC F2.3
[4] see BSC F2.7
[5] see BSC F2.1.8

4 DESCRIPTION OF THE MODIFICATION PROPOSAL

The Modification seeks to address a perceived lack of stable signals for long-term investment and the potential stranding of sunk costs were the Transmission Loss Factor (TLF) value in the BSC to change from its current value of zero. To this end, the Modification recommends embedding a transition scheme for the TLF value in the BSC. Under the scheme, any future change to the value of TLF would be phased-in progressively over time.

According to the Proposer, changes to the TLF value, in the long-term, could create new risks that are impossible to hedge against. Implementation of the Modification would facilitate competition in generation and supply by providing a transitional scheme that would avoid or diminish the distortions created by such risks. Therefore, the Proposer asserts, introduction of such a transitional scheme would protect consumers from the effect 'abrupt changes in electricity prices' and protect 'sunk investments in generation'.

The proposed transition scheme, applicable to both generation and consumption, is based on allocating transmission losses to BM Units on a mixed basis – a fixed quantity of production/consumption would be allocated losses as at present (i.e. a pro-rata allocation equal to 45% or 55% of average losses respectively) and the remainder (i.e. the difference between that fixed quantity and actual production/consumption) would be allocated losses in accordance with the relevant new TLF.

Efficient cost recovery would be ensured by spreading residual losses not accounted for in the above allocation arrangements over all BM Units in proportion to the designated fixed quantity and adjusting TLFs using via the TLMO and TLMO terms already in Section T of the BSC.

The transitional element would be given effect by introducing a factor (where $1 \geq X \geq 0$) which would move gradually from 1 to 0 over time. The factor would be used to scale down the fixed quantity, thus using the new TLFs to allocate losses to an increasing proportion of a BM Unit's production or consumption.

A copy of the Modification, as submitted by its proposer, can be found at Annex 1 to this report.

5 IMPACT ON BSC SYSTEMS AND PROCESSES

BSC System / Process	Potential Impact of Proposed Modification
Registration	No impact identified
Contract Notification	No impact identified
Credit Checking	No impact identified
Balancing Mechanism Activities	No impact identified
Collection and Aggregation of Metered Data	No impact identified
Supplier Volume Allocation	No impact identified
Settlement	SAA may have to assume additional calculations entailed by phased implementation scheme (i.e. uniform allocation of losses to a fixed portion of a BM Unit's metered volume and application of the relevant TLF to the remainder). Therefore, the necessary system and process changes would need to be in place to meet the eventuality of a change to the TLF value.
Clearing, Invoicing and Payment	No impact identified
Reporting	Settlement reporting may need to include a breakdown, by BMU, between uniform allocation of losses and allocation by TLF. In addition, were the fixed factor ('F') referred to in the Modification Proposal considered to be a percentage rather than a MWh value then a register of the fixed quantity allocated to each BM Unit might need to be reported.
Contingencies	No impact identified
Dispute Resolution	No impact identified

6 IMPACT ON OTHER SYSTEMS AND PROCESSES USED BY PARTIES

System / Process	Potential Impact of Proposed Modification
	None identified

7 IMPACT ON DOCUMENTATION

7.1 Impact on Balancing and Settlement Code

BSC Section	Potential Impact of Proposed Modification
A: Parties and Participation	None identified
B: The Panel	None identified
C: BSCCo and its Subsidiaries	None identified
D: BSC Cost Recovery and Participation Charges	None identified
E: BSC Agents	None identified
F: Modification Procedures	None identified
G: Contingencies	None identified
H: General	None identified
I: Not Used	Not applicable
J: Party Agents	None identified
K: Classification and Registration of Metering Systems and BM Units	None identified
L: Metering	None identified
M: Credit Cover and Credit Default	None identified
N: Clearing, Invoicing and Payment	None identified
O: Communications	None identified

BSC Section	Potential Impact of Proposed Modification
P: Energy Contract Volumes and Metered Volume Reallocations	None identified
Q: Balancing Mechanism Activities	None identified
R: Collection and Aggregation of Metered Data from CVA Metering Systems	None identified
S: Supplier Volume Allocation	None identified
S: ANNEX S-1 Performance Levels and Supplier Charges	None identified
S: ANNEX S-2 Supplier Volume Allocation Rules	None identified
T: Settlement and Trading Charges	Phased implementation scheme would need to be embedded in section T2. In addition, the decision-making process to be followed by the Panel whilst setting the value of the fixed quantity ('F') might need to be drafted into the BSC.
U: Provisions Relating to Settlement	None identified
V: Reporting	None identified
W: Trading Queries and Trading Disputes	None identified
X: Definitions and Interpretation	None identified
X: ANNEX X-1 General Glossary	Any relevant new terms introduced in section T2 would need to be included here
X: ANNEX X-2 Technical Glossary	Any relevant new terms introduced in section T2 would need to be included here (e.g. 'fixed quantity' and 'phasing factor')

7.2 Impact on Code Subsidiary Documents

Code Subsidiary Document	Potential Impact of Proposed Modification
BSC Procedures	None identified
Codes of Practice	None identified
BSC Service Descriptions	SAA Service Description would have to be amended to include additional calculations entailed by the phased implementation scheme.
Party Service Lines	None identified
Data Catalogues	Relevant Settlement report entry would need to be amended, if deemed necessary, to include data items reporting break-down, by BMU, between uniform allocation of losses and allocation by TLF.
Communication Requirements Documents	None identified
Reporting Catalogue	Relevant Settlement report entry would need to be amended, if deemed necessary, to include data items reporting break-down, by BMU, between uniform allocation of losses and allocation by TLF.

7.3 Impact on Core Industry Documents

Core Industry Document	Potential Impact of Proposed Modification
Grid Code	None identified
MCUSA	None identified
Supplemental Agreements	None identified
Ancillary Services Agreements	None identified
Master Registration Agreement	None identified
Data Transfer Services Agreement	None identified
British Grid Systems Agreement	None identified
Use of Interconnector Agreement	None identified
Pooling and Settlement Agreement	None identified
Settlement Agreement for Scotland	None identified
Distribution Codes	None identified
Distribution Use of System Agreements	None identified
Distribution Connection Agreements	None identified

8 IMPACT ON OTHER CONFIGURABLE ITEMS

Item	Potential Impact of Proposed Modification
	None identified

9 IMPACT ON ELEXON

Area of Business	Potential Impact of Proposed Modification
ELEXON Systems	None identified
ELEXON Procedures	None identified
ELEXON Contracts (Excluding BSC Agent Contracts)	None identified
Other (e.g. costs, staffing, etc.)	ELEXON might need to support the Panel in setting the initial level of the 'fixed quantity' element to which uniform transmission losses would be applied and deciding the rate at which it is scaled down over time.

10 IMPACT ON FINANCIAL ARRANGEMENTS AND BUDGET

None identified.

11 IMPACT ON BSC AGENT CONTRACTUAL ARRANGEMENTS

BSC Agent Contract	Potential Impact of Proposed Modification
Logica (BMRA, CRA, CDCA, SAA, ECVAA, TAA(CVA))	SAA contract might need to be changed to reflect the extra transmission loss calculations that would have to be performed.
EPFAL (FAA)	None identified
ESIS (TAA(SVA))	None identified
Cap Gemini (SVAA)	None identified
PwC (BSC Auditor, Certification Agent)	None identified
EASL (Teleswitch Agent, Profile Administrator)	None identified

12 PROCESS AND TIMETABLE FOR PROGRESSING THE PROPOSAL

ELEXON recommends that the Modification should be submitted to the TLFMG, which has the appropriate expertise in the area of transmission losses and has already established that it would consider the option of phased implementation for Modification Proposals P75 and P82. Furthermore it is recommended that it be subject to a 3-month Assessment Procedure, with TLFMG being actioned to provide its report to the Panel by 12 September 2002.

In making this recommendation it is recognised that the modification requires development activities which would only be exercised if subsequently the TLF methodology were changed, and are to cater for an unquantified disturbance should any new methodology be introduced. This could suggest that it would be appropriate to address phased implementation as part of a TLF methodology (e.g. P75 or P82). This view is countered by the assertion in the proposal.

The Modification is clear and well defined, and therefore, should be submitted directly to the Assessment Procedure. A three-month Assessment Procedure would provide sufficient time for market participants to be consulted, necessary changes to SAA systems and processes specified, and for a Detailed Level Impact Assessment (DLIA) to be carried out by the SAA.. The TLFMG is the most appropriate Modification Group to take the progress the proposal, it contains the relevant expertise and the terms of reference for each of the two zonal tranmission losses proposals it is currently assessing stipulate that the TLFMG must assess *"the impact of phasing in the Modification Proposal over time"*. In practice should P85 be submitted to assessment then it would be appropriate to remove this stipulation from the Terms of Reference of P75 and P82.

It should be noted that this Modification is related to Modification Proposals P75 and P82 – all three proposals relate to changes to the TLF value in Section T of the BSC. However, whilst related to these proposals, this Modification is independent of them in that, rather than specifying changes to the methodology for calculating TLFs, it recommends the embedding of transition scheme into the BSC that would be triggered if the TLF value changed from its current setting of zero. Given that the Modification is independent of any TLF methodology, neither amalgamation with either of the other two proposals nor linkage to their respective Assessment Procedure timetables is considered appropriate.

12.1 Outline Timetable & Cost Estimate

As stated in the section above, the recommendation is to provide an Assessment Report to the 12 September 2002 Panel meeting.

It is estimated that the progression of this Modification Proposal through the Modification Process will incur third party costs of £18,500 funded from the demand led budget in addition to core team staff costs. This estimate is based on current information and may be subject to change.

12.2 TLFMG Terms of Reference

It is proposed that the TLFMG adopted the standard Assessment Procedure Terms or Reference to progress the Modification.

13 ISSUES

In summary, an initial assessment of the Modification has identified the following potential areas of impact:

- The proposed transitional scheme would have to be drafted into Section T2 of the BSC.
- The SAA may have to assume additional calculations entailed by phased implementation scheme (i.e. uniform allocation of losses to a fixed portion of a BM Unit's metered volume and application of the relevant TLF to the remainder). Therefore, the necessary system and process changes would need to be specified as part of this Modification and, were the Modification made, implemented to meet the eventuality of a change to the TLF value.
- Settlement reporting may need to include a break-down, by BMU, between uniform allocation of losses and allocation by TLF.
- The Panel would need to make decisions regarding the initial level of the 'fixed quantity' element to which uniform transmission losses would be applied and the rate at which it is scaled down over time, unless the factor and its rate of change were pre-specified in the BSC. The decision-making process to be followed by the Panel might need to be drafted into the BSC. Alternatively, both the initial quantity and the scaling schedule could be drafted directly into the BSC.

The following issues will need to be considered and addressed in progressing the Modification Proposal:

- Clarify whether the fixed quantity 'F', referred to in the Modification, is a fixed MWh value or a percentage. This issue could implications for new reporting requirements (e.g. a percentage might require a register of the fixed quantity allocated to each BM Unit) and the Panel decision-making process (e.g. setting a fixed MWh value applicable to all BM Units, regardless of the level of production or consumption, could be more problematic than setting a percentage).
- Market participants will need to be consulted on the merits of embedding a transitional scheme for losses in the BSC and the requirement for associated reporting.
- Need to conduct full impact assessments on SAA systems, processes and documentation

ANNEX 1 – MODIFICATION PROPOSAL

Modification Proposal	**MP No: 85** *(mandatory by BSCCo)*
Title of Modification Proposal *(mandatory by proposer)***:** A Phased Implementation Scheme for changes to TLF in Section T of the code	
Submission Date *(mandatory by proposer)***:** **31 May 2002**	

Modification Proposal	**MP No: 85** *(mandatory by BSCCo)*

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

Section T of the BSC contains the terms transmission loss factor (TLF), currently set to zero. In the future, the TLF value could be changed from zero via a modification to the code. Any change in TLF will impact on overall costs for all generators and consumers. This modification seeks to implement a phasing scheme in the event that TLF is set to any value except zero. The current arrangements allocate losses on a uniform basis across the grid system, with 45 percent of losses being allocated to generators and 55 percent of losses being allocated to consumers. Losses amounted to around 1.47 percent of all electricity generated in 2001/2, a decline from 1.99 percent in 1995/6.

Changes to the TLF value may improve short term efficiency signals, but may not improve long-term efficiency signals if the new value (and the transition to it) create new risks that are impossible to hedge efficiently. This proposal is intended to enhance long-term efficiency (and hence competition in generation and supply), by providing a transitional scheme, based on phasing in of TLF, that will avoid or diminish the distortions created by unhedgeable risks.

We propose a scheme that implements the phased implementation of transmission loss factors for both consumption and generation. Under a phased scheme, each (production or consumption) BMU would be allocated losses on a mixed basis:

1. in relation to a fixed quantity of output or consumption (F), the BMU would receive an allocation equal to 45% or 55% of average losses, as at present;
2. in relation to the difference between the fixed quantity (F) and actual production or consumption (A), the BMU would receive an allocation equal to the future loss factor (i.e., TLF * (A-F));
3. to ensure efficient cost recovery, any remaining balance of losses (positive or negative) would be spread (i) over all BMUs in proportion to the F term and (ii) by adjusting future loss factors via the TLMO+ and TLMO- term in section T of the BSC.

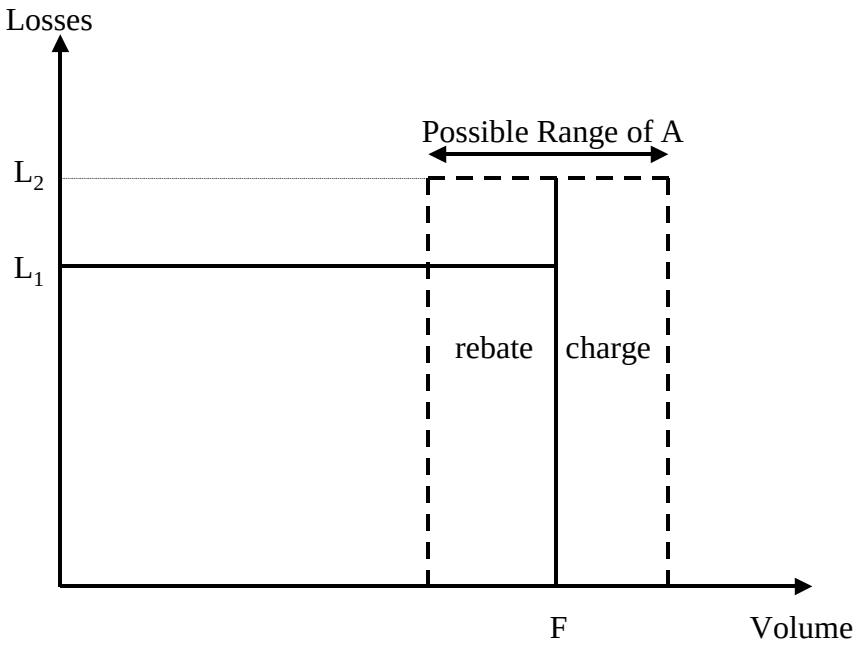
To provide the transitional arrangement, the BSC would define a factor ($1>=\alpha>=0$) which would move gradually from 1 to 0 over a period of years. This factor would be used in step 1 to scale down the fixed quantities (F), such that the protection against risk afforded by the scheme in each year would be equal to αF. It would also be used in step 3, to allocate residual losses between the two schemes in the proportion to α and $1-\alpha$.

Over time, the proportion of energy subject to transmission loss factors will increase until all consumption and generation is subject to this factor. Phasing of transmission loss factors will protect consumers from abrupt changes in electricity prices, while protecting sunk investments in generation.

The proposed scheme provides the necessary combination of short-term signals and long-term stability needs to provide incentives based on any desired pricing signal, combined with the necessary **protection** against variation in charges (whether the changes are due to technical or regulatory factors).

Modification Proposal	**MP No: 85** *(mandatory by BSCCo)*

Phasing in implementation of TLF by this method will retain any desired pricing signals under that TLF scheme for *changes* in volume of output, relative to some baseline. The phasing formula would establish a baseline volume of energy for any particular generating station or customer (BMU), most likely based on past generation or consumption. For this fixed volume, F, the user would be liable for losses at the current rate. Any difference between actual output, A, and F would incur (if positive) or earn (if negative) an allocation of losses at the marginal rate set out in TLF. (See diagram below.) If the BMU generated/consumed (as applicable) at the same level as F, it would pay the same losses as under the current system. However, short-term incentives to vary generation/consumption around F would depend on the marginal rate of losses. The baseline figure, F, would be tradable among certain parties (nationally or within a zone), to ensure its value is determined by future loss factors, so that it would provide good long-term incentives. The baseline figures for each BMU would be allocated initially to the party connected to NGC's transmission grid, i.e. a generator, a customer or a distribution network.



L1 = losses allocated to volume F using current system (45% or 55% of average losses)

L2 = losses allocated to volume (A-F) using future loss factors

To effect a transition, the baseline figure, F, would decline over time towards 0, thereby increasing the user's exposure to the new loss factors.

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

The proposal seeks to address the lack of stable signals for long-term investment, and the potential stranding of sunk costs, through a phasing adjustment to any change in TLF value envisaged under Section T of the BSC.

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

Changes to Section T2 of the BSC

Modification Proposal	**MP No: 85** *(mandatory by BSCCo)*

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

Not known

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

Not known

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

Not known

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

The scheme will improve the efficient operation of the code and will promote effective competition in generation and supply by protecting market participants from windfall gains and losses on sunk investments and enhancing long term efficiency. A stable regime lowers risks to participants, thereby reducing the overall cost of producing electricity and the overall market price.

Details of Proposer:

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Details of Proposer's Representative:

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Attachments: NO

If Yes, Title and No. of Pages of Each Attachment: