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Modification Proposal P139 Consultation Document

Modification Proposal P139 'Removal of Trading Unit restriction on Interconnector Users'

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1 INTRODUCTION

1.1 Scope

This document provides background information on Modification Proposal P139 'Removal of Trading Unit restriction on Interconnector Users' (P139) and is issued to support industry consultation on the proposed change. Areas covered include:

- History of the Proposal;
- Description of the Proposal;
- Overview of Trading Unit status; and
- Initial Assessment of the Proposal.

1.2 History of the Modification Proposal

Modification Proposal P139 was raised by EDF Trading Ltd on 21 August 2003 (reference 1). ELEXON presented an Initial Written Assessment (IWA) (reference 2) to the Balancing & Settlement Code Panel ('the Panel') at its meeting on 11 September 2003. The Panel agreed with the recommendation in the IWA that P139 be submitted to a three month Assessment Procedure to be carried out by the Settlement Standing Modification Group (SSMG). The Assessment Report is scheduled to be presented at the Panel meeting on 11 December 2003.

The Panel noted the following issues brought to its attention in the IWA and determined that these form the Terms of Reference for the SSMG as follows:

- how the principle of superposition, and other aspects of the arrangements for Interconnectors, can be reconciled with the proposal to allow Interconnector BM Units to form Trading Units as required;
- the changes required to Central Systems and associated costs;
- the charging mechanisms in Europe; and
- whether the perceived defect is contained within the BSC.

2 DESCRIPTION OF THE PROPOSAL

P139 seeks to allow Interconnector BM Units to form multiple BM Unit Trading Units within England and Wales. Currently Section K 5.7.1 of the Balancing and Settlement Code (the 'Code') explicitly excludes Interconnector BM units from forming Trading Units[1];

> *"An Interconnector BM Unit may not belong to a Trading Unit other than a Sole Trading Unit."*

P139 was raised to allow Interconnector Users to realise Trading Unit benefits such as those relating to Balancing Services Use Of System charges (BSUoS). For example, if there was 1000 MW contracted from France to UK and at the same time 500 MW from UK to France, there would currently be BSUoS charges made on the gross value of 1500 MW. Under P139 an Interconnector Trading Unit could be formed, the BSUoS charges would then be charged to those Interconnector BM Units (participating in the Trading Unit) in such a way as if the BSUoS charges were based on the 'net' value. In the example the BSUoS charges would correspond to 500 MW, equivalent to the actual metered Interconnector flow and the amount 'seen' by the System Operator.

The Proposer believes that, by removing the restriction on Interconnector BM Units forming Trading Units, an unnecessary and unfair potential financial burden on existing and new Interconnector Users would be removed. It is also suggested that P139 would provide Interconnector Users with similar opportunities as afforded to other Trading Parties in England and Wales operating from the same site for the formation of a Trading Unit. As such, P139 would remove discrimination in this context, facilitate more efficient and competitive trading activity between neighbouring systems and remove the potential for duplicate charging of BSUoS charges. Therefore, the Proposer believes implementation of P139 would better facilitate achievement of Applicable BSC Objectives (a), (c) and (d).

> *"a) the efficient discharge by the licensee of the obligations imposed upon it by this licence;*
>
> *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; and*
>
> *d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements."*

2.1.1 Principles of Trading Units

This section outlines the principles of Trading Unit status and gives an overview of the benefits afforded to BM Units which comprise part of a multiple BM Unit Trading Unit. This information is provided in order that the results of allowing Interconnector Trading Units to form multiple BM Unit Trading Units can be understood.

2.1.1.1 WHAT IS A TRADING UNIT?

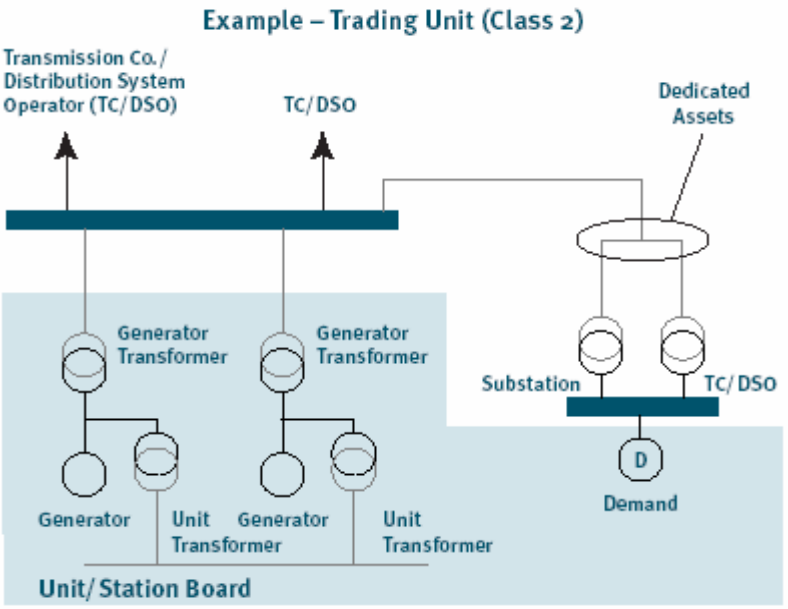
A Trading Unit is a group of Balancing Mechanism Units (BM Units) that are electrically close to each other on the transmission system. Because of this proximity, they are afforded "net" treatment, meaning that the overall commercial effect is the same as if demand occurring within

[1] Every BM Unit is in a Trading Unit, even if that is a Trading Unit that comprises only the one BM Unit, in which case the Trading Unit is called a Sole Trading Unit. In this document, Trading Unit is used to refer to Trading Units that are not Sole Trading Units.

the group were satisfied directly by generation within the group (or vice versa), with only the net of the two being traded over the system.

The criteria for a group of BM Units to belong to a Trading Unit are set down in Annex K-2 of the Code. Currently, there are five classes of Trading Unit which require that the BM Units either: are located within the same Power Station; are connected by assets solely meant for that purpose (as per the example in Diagram 1); share the same connections assets to the transmission or distribution system; are Supplier BM Units located in the same GSP Group; or, in special cases, are agreed to be a Trading Unit by the BSC Panel.

Diagram 1:



Trading Parties must apply, using Balancing and Settlement Code Procedure (BSCP) 31 (reference 6) and citing one of the above criteria, to the BSC Panel for Trading Unit treatment to be accorded to two or more BM Units. There is no requirement for the BM Units in a Trading Unit all to belong to the same Trading Party, but all of the Lead Parties of the BM Units must be party to the application. The benefits of Trading Unit treatment will go to one or more Lead Parties, as described below, and it is then a matter for the Parties to agree how the benefits are shared.

A BM Unit that is not in a Trading Unit with other BM Units defaults to being a sole Trading Unit.

2.1.1.2 TREATMENT OF BM UNITS

BM Units are treated differently depending on whether they are deemed to be Production or Consumption and whether they are in Trading Units that are delivering to, or offtaking from, the system. In particular, for BM Units which are sole Trading Units:

- Credited Energy Volumes (QCE) for Production BM Units accrue to Production Energy Accounts, whereas the Credited Energy Volumes for Consumption BM Units accrue to Consumption Accounts;
- Different loss treatments are applied to Exporting and Importing BM Units (i.e. in Trading Units that are delivering or offtaking, respectively), such that the output from Exporting BM Units is scaled down (typically by around 0.7%) and the demand of Importing BM Units is scaled up (typically by in the region of 0.8%)[2];
- Residual Cashflow Reallocation Cashflows (RCRC) are pro-rated on the magnitude of the Credited Energy Volume at each BM Unit, i.e. the Credited Energy Volume of an Exporting

[2] Approved Modification P82-" Introduction of Zonal Transmission Losses on an Average Basis" (P82), to be implemented 1 April 2004, will introduce Zonal Transmission Losses, such that, dependent on geographic location, output from Exporting BM Units may be scaled up and the demand of Importing BM Units may be scaled down. Hence, under P82, the application of losses may prove beneficial; this is considered further in section 3.4.2.

BM Unit, or the Credited Energy Volume of an Importing BM Unit multiplied (because it is a negative quantity) by minus one;

- A significant element of BSCCo Costs is charged proportionately (at the rate of about £0.10/MWh) on the Credited Energy Volumes of Exporting BM Units and on the Credited Energy Volumes of off-taking BM Units times minus one.

Consequently, for two BM Units, one a Production BM Unit Exporting to the system and the other a Consumption BM Unit Importing from the system, which are at the same location but which are not in a Trading Unit, the Lead Party or Lead Parties would:

- be exposed to imbalance charges on the relevant Production account and the relevant Consumption account;
- be deemed, through the scaling up of energy Imported and scaling down of energy Exported, to be responsible for transmission losses in respect of each BM Unit; and
- be charged BSCCo charges on the energy Exported and the energy Imported by each of the two BM Units.

2.1.1.3 NET TREATMENT OF TRADING UNITS

Net treatment is achieved by according all BM Units in a Trading Unit the same treatment.

Each BM Unit has a Relevant Capacity, which indicates whether the BM Unit predominately has the capacity to Export to or Import from the System, and hence is classified as a Production BM Unit or a Consumption BM Unit respectively. If a BM Unit's Generation Capacity (GC) is larger than the magnitude of the Demand Capacity (DC) then the Relevant Capacity is the Generation Capacity, and the BM Unit would normally be classified as Production. If, however, the magnitude of the Demand Capacity is larger than the Generation Capacity, the Relevant Capacity is the Demand Capacity, and the BM Unit would normally be classified as Consumption.

For a Trading Unit, the sum of the Relevant Capacities for all the BM Units is taken to indicate whether the BM Units in the Trading Unit predominately have the capacity, overall, to Export or Import. All of the BM Units, irrespective of whether on their own they would have been Production or Consumption, are then classified as Production or Consumption according to whether the sum of the Relevant Capacities is greater or less than zero. For example, if the output of a BM Unit, that predominately has the capacity to Import, but which is in a Trading Unit whose BM Units overall have the capacity to Export, will accrue to the Production (rather than Consumption) Energy Account of the BM Unit's Lead Party.

In addition, if, in any given Settlement Period, the BM Unit is Importing, say, when the BM Units in the Trading Unit to which it belongs are, in aggregate, Exporting – this being described in the BSC as a "delivering" Trading Unit, whilst a Trading Unit whose BM Units are, in aggregate, Importing is said to be "offtaking" – then:

- by applying the loss treatment for Exporting BM Units to all of the BM Units in the Trading Unit, the demand of the Importing BM Unit will be scaled down rather than up (which is an advantage so long as cash-out prices remain positive)[3];

[3] P82, to be implemented 1 April 2004, will introduce Zonal Transmission Losses, such that, dependent on geographic location, output from Exporting BM Units may be scaled up and the demand of Importing BM Units may be scaled down. Hence, under P82, the application of losses may prove beneficial; this is considered further in section 3.4.2

- the Credited Energy Volumes of the Importing BM Unit count negatively in the allocation of BSCCo costs, so that the Lead Party and any Subsidiary Parties will get paid, rather than pay, an amount for the BM Unit in respect of BSCCo Costs; and
- RCRC are payments to Trading Parties arising as a consequence of imbalance charges paid by Trading Parties. Thus, a consequence of netting the exposure of the BM Units within a Trading Unit to imbalance charges is the netting of RCRC payments. This means that, in the example of the BM Unit that is Importing in a delivering Trading Unit, the Credited Energy Volume is counted negatively in the allocation of RCRC, and typically the Lead Party and any Subsidiary Parties will pay, rather than be paid, RCRC.

2.1.1.4 USE OF SYSTEM CHARGING

Other benefits afforded to Trading Units include adjustments to National Grid Company (NGC) charges for the use of its system, as described in NGC's Statement of the Use of System Charging Methodology, which is published pursuant to NGC's Transmission Licence. Both categories of Use of System charges, i.e. Balancing Services Use of System (BSUoS) and Transmission Network Use of System (TNUoS), may be modified by Trading Units, with only connection charges unaffected.

BSUoS charges, covering the costs of balancing mechanism actions plus the cost of NGC's Balancing Services contracts and other related costs, are charged pro-rata on the BM Unit Metered Volumes (QM) and are scaled for transmission losses. However, BSUoS charges are based on the net QM for BM Units in a Trading Unit. This is equivalent to the treatment in the BSC for BSCCo Costs and RCRC, except that NGC charges (or payments) are paid wholly by (or to) the Lead Party, and not split between the Lead Party and any Subsidiary Parties.

The treatment of TNUoS charges is less straightforward, with station loads on power stations being netted off generation charges, but other demand not being netted off generation unless the generation has an 'Export Limiting Modification'. The Lead Party of a half-hourly metered BM Unit that is Importing during NGC's 'Triad' periods will pay TNUoS demand changes only on the net Import, if any, of the whole Trading Unit; there are no TNUoS demand charges or payments for the Exporting BM Units. Different rules apply for non half-hourly metered demand. Reference must be made to the Statement of the Use of System Charging Methodology for details.

2.1.1.5 SUMMARY

BM Units are that are electrically close to each other on the transmission system are allowed to form Trading Units, BM Units forming part of such Trading Unit are afforded "net" treatment. As a consequence of net treatment, benefits are potentially accrued in the following areas:

- Transmission Losses;
- BSCCo Charges;
- BSUoS; and
- TNUoS.

The remainder of this document investigates the previously detailed principles of Trading Unit status in the context of Interconnector BM Units. Potential criteria for the formation of Trading Units containing Interconnector BM Units, the effects of Trading Unit status on Interconnector BM Units and the potential benefits available to Interconnector BM Units are considered.

3 SSMG INITIAL ASSESSMENT

3.1 Criteria for Interconnector Trading Units

The SSMG has discussed potential criteria for the formation of Trading Units containing Interconnector User BM Units.

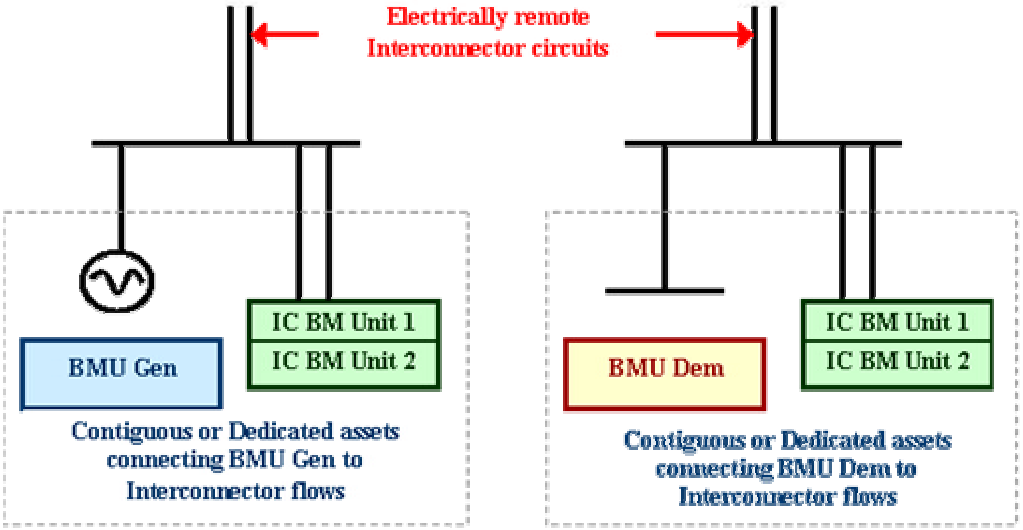
Currently section K 5.7.1 of the Code explicitly excludes Interconnector BM units from forming Trading Units;

"An Interconnector BM Unit may not belong to a Trading Unit other than a Sole Trading Unit."

In its simplest form P139 would remove paragraph K 5.7.1, such that Interconnector BM Units would be eligible to join Trading Units. Interconnector BM Units would then be assessed against the existing criteria for the formation of Trading Units. However, initial assessment by the SSMG indicates that, in the case of Trading Units including Interconnector BM Units a new set of criteria would be required.

BM Units are allowed to form Trading Units due to their proximity on the transmission system. The existing criteria for the formation of Trading Units allow any BM Units connected by contiguous or dedicated assets to form Trading Units. Applying the existing criteria to Interconnector BM Units raises an issue in the case of electrically remote Interconnector circuits, as illustrated in the example below.

Diagram 2:



In Diagram 2 above:

- BMU Gen and BMU Dem are not linked by contiguous or dedicated assets and can not directly form a Trading Unit;
- BMU Gen and Interconnector BMUs 1 and 2 are linked by contiguous or dedicated assets and could form a Trading Unit;
- BMU Dem and Interconnector BMUs 1 and 2 are linked by contiguous or dedicated assets and could form a Trading Unit;
- Interconnector BMUs 1 and 2 are linked by contiguous or dedicated assets and could form a Trading Unit; and

- Hence, BMU Gen, BMU Dem and Interconnector BMUs 1 and 2 could form a Trading unit.

As demonstrated in the example, by forming a Trading Unit including Interconnector BM Units, BM Units which are not linked by contiguous or dedicated assets would be able to join the same Trading Unit. This appears to undermine the principle of Trading Unit status. Furthermore, an element of discrimination is involved as electrically remote BM Units, not connected by contiguous or dedicated assets and not connected to Interconnector BM Units by contiguous or dedicated assets, would not be able to form Trading Units. Whereas, electrically remote BM Units, not connected by contiguous or dedicated assets, but connected to Interconnector BM Units associated with electrically remote Interconnector circuits by contiguous or dedicated assets, may form Trading Units.

In order to address these issues the following approaches were considered. Please note that a common assumption for all approaches is that Interconnector BM Units cannot enter Trading Units with BM Units trading across different Interconnectors, such that French and Scottish Interconnector BM Units may never share the same Trading Unit:

1) Limit Interconnector BM Units to forming Trading Units with other Interconnectors BM Units.

This approach addresses the issue whereby, by forming a Trading Unit with Interconnector BM Units, BM Units which are not linked by contiguous or dedicated assets would be able to form a Trading Unit. However, electrically remote Interconnector BM Units would be able to form Trading Units. As such this approach could be considered to contravene the principle of Trading Unit status.

2) Limit Interconnector BM Units to forming Trading Units with other Interconnector BM Units where flows onto or off the Interconnector are from contiguous or dedicated assets.

This approach addresses the issue whereby, by forming a Trading Unit with Interconnector BM Units, BM Units which are not linked by contiguous or dedicated assets would be able to form a Trading Unit. It would also prevent electrically remote Interconnector BM Units forming Trading Units. However, this approach restricts the trading options available to BM Units. Furthermore, it would mean that some BM Units linked by contiguous or dedicated assets would be able to form Trading Units whereas others were not. As such this approach could introduce inconsistency into the criteria for Trading Unit formation.

3) Limit Interconnector BM Units to forming Trading Units with other Interconnector BM units where flows onto or off the Interconnector are from contiguous or dedicated assets and other BM Units linked by contiguous or dedicated assets.

This approach addresses the issue whereby, by forming a Trading Unit with Interconnector BM Units, BM Units which are not linked by contiguous or dedicated assets would be able to form a Trading Unit. It would also prevent electrically remote Interconnector BM Units forming Trading Units. Furthermore, in comparison to options 1 and 2, this approach would maximise the opportunities for Interconnectors to form Trading Units and is more closely aligned with the criteria for all BM Units and the fundamental principles behind formation of Trading Units.

The SSMG also gave some initial consideration to the possibility of establishing a special status of Trading Unit for Interconnectors, on the basis that only the BSUoS benefits would accrue, but not the other benefits, such as treatment of losses, adjustments to P/C status and BSCCo charges. However, the Group considered that this would lead to further complexity and still created

discrimination between BM Units, depending on whether they were Interconnector BM Units, or not. However, the Group did note that, by pursuing a more generic Trading Unit arrangement for Interconnector BM Units, this did mean that P/C status for such BM Units could conceivably change on a seasonal basis. This would be a new potential risk for Interconnector Users.

In conclusion, it is the initial view of the SSMG that, under P139:

- **A new Class of Trading Unit would be created; and**
- **This new Class of Trading Unit would limit Interconnector BM Units to forming Trading Units with other Interconnector BM Units where flows onto or off the Interconnector are from contiguous or dedicated assets and other BM Units linked by contiguous or dedicated assets (approach 3).**

The SSMG is seeking comment on these initial findings via industry consultation.

3.2 Impact On P/C Status

Section K3.5 sets out the rules for classifying BM Units within Trading Units as Production or Consumption BM Units. This classification is referred to as the 'P/C Status' of the BM Unit.

This determination is made based upon the sum of the Relevant Capacities of BM Units in each Trading Unit. The Relevant Capacity is Generation Capacity (GC) where GC plus Demand Capacity (DC) is greater than zero, otherwise it is DC.

The P/C Status of a BM Unit is re-determined on each occasion on which the BM Unit either: joins or leaves a Trading Unit; is within a Trading Unit to which a BM Unit joins or leaves; or upon any change to GC/DC values of any of the BM Units which belong to that Trading Unit.

As previously outlined, current Trading Unit rules preclude Interconnector BM Units forming part of multiple BM Unit Trading Units. Additionally, Section K5.6 specifies that for Production Interconnector BM Units the DC determined shall at all times be zero, and for Consumption Interconnector BM Units the GC determined shall at all times be zero. The combination of these provisions means that the P/C Status of an Interconnector BM Unit cannot currently change.

Potentially P139 would allow the creation of multiple BM Unit Trading Units containing Interconnector BM Units. This could lead to circumstances where the P/C Status of an Interconnector BM Unit would change, dependent upon the sum of the Relevant Capacities of BM Units within its Trading Unit.

This would impact upon the calculation of Credit Assessment Energy Indebtedness (CEI) for these BM Units.

The CEI calculation works by calculating the deviance between the Account Bilateral Volume (QABC) of the Party and its Credit Assessment Credited Energy Volume (CAQCE), and using this value as a proxy for energy imbalance for those Settlement Periods within the 29 day period over which Energy Indebtedness is calculated where Interim Information Settlement Run data is not available.

The CAQCE generated for a Lead Party is based upon the BM Unit Credit Assessment Export and Import Capabilities (BMCAEC/BMCAIC) of its BM Units. BMCAEC is calculated as Credit Assessment Load Factor (CALF) multiplied by GC for Production BM Units. BMCAIC is calculated as CALF multiplied by DC for Consumption BM Units.

Any circumstance that affects the P/C Status of a BM Unit such that it changes from a Production to a Consumption BM Unit (or vice versa) will therefore impact upon whether a BMCAEC or a BMCAIC value is generated for the BM Unit.

The CALF Guidance document (reference 4) contains rules for addressing the treatment of BM Units within Trading Units such that where the P/C Status of an individual BM Unit deviates from its expected behaviour, for a delivering BM Unit within an offtaking Trading Unit (or vice versa), that a representative CAQCE flows through from the BMCAEC/BMCAIC values generated.

As an example of how this works, the CALF Guidance document states that in the case of a Production Trading Unit which includes BM Units that would be regarded as Consumption Units if treated independently, the CALF values for the Production BM Units are calculated after netting off from their average net metered Production, a proportion of the average net metered Consumption of those Consumption BM Units. The proportion to be netted off from each Production BM Unit is calculated pro rata to the maximum metered generation for the Production BM Units in that season. The maximum metered generation for the Production BM Units is not adjusted. The CALF for the Consumption BM Unit should be set to zero as the credit liability has been reallocated to other BM Units. A similar process is applied for a Consumption Trading Unit which includes BM Units that would be regarded as Production Trading Units if treated independently.

It should be noted that a problem exists with this calculation where BM Units within a Trading Unit are not under common ownership. In such circumstances, the CALF Guidance document states that the BSCCo should seek to allocate Production or Consumption to other BM Units within the Lead Party's portfolio. If this proves impossible – as the Lead Party has no BM Units outside the Trading Unit – it is not clear how a representative CAQCE value can be generated.

This is an ongoing issue with the CALF calculation and not an issue introduced by P139. It may however be the case that some Interconnector Trading Units would be affected by this problem.

3.3 Impact on Superposition

Interconnector arrangements may allow for the deemed metered amounts (the metered volumes allocated to individual Interconnector BM Units) in one direction to sum to more than the capacity of the given Interconnector, so long as the overall net deemed metered amount is within the capacity of the Interconnector. These arrangements are outside the scope of the BSC. However, the BSC does currently require there to be two BM Units per Interconnector User; one solely for Exports and one solely for Imports. Furthermore, the BSC also limits an Interconnector User to only export, or import at any spot time (Section Q 3.2.3-C: (iii)).

The SSMG considered whether allowing non-sole Trading Units on an Interconnector could impact on these arrangements. The SSMG concluded that, if the restrictions on an Interconnector User, to only export or import, at a given spot time, were retained, then Interconnector Users and the relevant Interconnector Administrator could still monitor and utilise the facility of superposition. The reasoning behind this conclusion was that, although non-sole Trading Unit status would lead to there being only Production BM Units on the Interconnector (assuming that all Users wished to participate in the Trading Unit), or only Consumption BM Units, if a particular User can only export, or import at any given spot time, then gross imports and gross exports for that spot time would still be evident. Indeed, the SSMG considered that, in the light of this analysis, there was no benefit from there being a requirement for Interconnector Users to have a pair of BM Units. However, this issue was considered to be outside the Terms of Reference for the SSMG and could be the subject of a future proposal.

3.4 Analysis of net benefits against the criteria

The SSMG conducted analysis of the net benefits relating to the treatment of Trading Units in the context of Interconnector BM Units.

The SSMG noted that a Trading Unit is a set of BM Units that are physically proximate to each other. The main practical reason for forming a Trading Unit is to realise net benefits. Because of their physical proximity, BM Units in a Trading Unit are afforded net treatment, meaning that the overall commercial effect is the same as if demand occurring within the Trading Unit were satisfied directly by generation on site, with only the net of the two being traded over the system. It may also be considered that Trading Units facilitate the management of imbalance risks as each BM Unit in a given Trading Unit is assigned the same Production or Consumption status (P/C Status) based on the sum of the Relevant Capacities for the Trading Unit as a whole.

The SSMG determined that for the purposes of the P139 Assessment Procedure, the material net benefits were:

- BSUoS Benefits
- Transmission Loss Benefits
- BSCCo Charge Benefits

The SSMG agreed that any effects relating to TNUoS charges should not be considered within the scope of the assessment, as TNUoS charging for Interconnector Users is already dealt with on a net basis under the Transmission Company's Statement of Use of System Charges (reference 5). It was also noted that TNUoS and BSUoS charges are outside the vires of the BSC and that Ofgem is responsible for ensuring the consistency of NETA charging across different governance arrangements. The analysis presented in this Consultation Document was conducted against the current baseline. The change of P/C status that enables netting for imbalance purposes was regarded as not significant, in this instance, by the SSMG.

3.4.1 BSUoS Benefits

BSUoS Charges are levied in accordance with the Transmission Company's 'Statement of the Use of System Charging Methodology'. According to Chapter 9 of the Statement, the Lead Party of each BM Unit is liable to pay (or receive) BSUoS charges for a given Settlement Period based on the period BM Unit Metered Volume. To calculate the charge, a Balancing Services Price (BSPj) must be determined for each MWh transported over the Transmission System during the given Settlement Period. BSPj is then multiplied by the BM Unit Metered Volume (adjusted for transmission losses) to give a charge for the Lead Party of each BM Unit. Most importantly:

- This charge is positive if the BM Unit conforms to the behaviour of its Trading Unit. In other words, there is a payment to the Transmission Company from the Lead Party when the BM Unit is exporting (generating) and the Trading Unit in which it resides is in delivery mode, or when the BM Unit is importing (consuming) and the Trading Unit in which it resides is in offtake mode.
- The charge is negative if the BM Unit acts contrary to the behaviour of its Trading Unit. In other words, there is a payment to the BSC Party from the Transmission Company when the BM Unit is exporting (generating) and the Trading Unit in which it resides is offtaking, or when the BM Unit is importing (consuming) and the Trading Unit in which it resides is delivering.

3.4.2 Transmission Loss Benefits

The allocation of transmission losses across all BM Units is described in Section T.2 of the BSC. The BSC determines two distinct Transmission Loss Multipliers (TLMj) for each Settlement Period. One of these multipliers is generally less than 1 and is applied to BM Unit Metered Volumes associated with delivering Trading Units. The other is generally greater than 1 and is applied to BM Unit Metered Volumes associated with offtaking Trading Units.

If an exporting Interconnector BM Unit is in an offtaking Trading Unit, the Metered Volume of the Interconnector BM Unit will will be multiplied by a factor greater than 1, resulting in an increase in its Metered Volume. In effect, it will have been credited with the losses it is deemed to have saved and will be treated accordingly in the settlement process.

Ignoring any minor effect of TLMij values on other net benefits, the direct Transmission Loss benefit (in MWh terms) realised by an exporting Interconnector BM Unit in an offtaking Trading Unit is the difference between the Transmission Loss Multiplier calculated for delivering Trading Units and that calculated for offtaking Trading Units, multiplied by the BM Unit Metered Volume. The converse is true for an importing BM Unit in a delivering Trading Unit.

It should be noted that the resulting Transmission Loss credit accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the relevant Interconnector BM Unit.

P82, which introduces Zonal Transmission Losses, arrangements will be implemented on the 1 April 2004. In the case of Zonal Transmission Losses the same underlying principal remains. If the Trading Unit is offtaking and is in a particular TLF zone, it will be adjusted by a TLM appropriate for that zone. This TLM may be less than, or greater than one, depending on the location of the TLF zone that applies. Any BM Unit that is exporting in the given Settlement Period and is part of the Trading Unit, will be adjusted in the opposite way to the adjustment applied to the rest of the Trading Unit. Again, the converse is true, for importing BM Units in a delivering Trading Unit. In other words, loss adjustments are made to the net flow in each Settlement Period. However, under the zonal losses arrangements, this may constitute either a benefit, or a disadvantage, dependent on the TLF zone in which the Trading Unit resides. This is because, output from Exporting BM Units may be scaled up (a benefit) and the demand of Importing BM Units may be scaled down (also a benefit). Hence, under P82, the formation of a Trading Unit may result in the netting off of a Transmission loss benefit, rather than a disadvantage.

3.4.3 BSCCo Charges

Certain BSCCo charges are pro-rated on the basis of credited volumes. Other charges, known as Specified BSC Charges, are levied on a per BM Unit or per Trading Party basis. A General Funding Share (FSGpm) is calculated for each Party to aggregate these different charges.

Funding Shares are described in Annex D-1 of the Code. An Interconnector BM Unit contributes to an Energy Account holder's General Funding Share (FSGpm) through the monthly Main Funding Share (FSMpm). The sign of the contribution made by a BM Unit to the Party's funding share depends on whether it is part of a delivering or offtaking Trading Unit. A Production Interconnector BM Unit will contribute negatively to the funding share if it is in an offtaking Trading Unit but positively if it is in a delivering Trading Unit. Hence a Production BM Unit will realise a benefit for the Party (whose energy account is credited) by joining an offtaking Trading Unit. The monetary value of the benefit will depend on ELEXON's expenses which form the basis of the Monthly Net Main Cost (MNMCm). If we estimate ELEXON's relevant expenses to be £60 million annually and

also estimate annual energy consumption in England and Wales to be approximately 300 TWh, then we can roughly say that BSCCo charges recovered through FSMpm should be the same order of magnitude as £0.10 / MWh. The benefit realised by an Production Interconnector BM Unit in an offtaking Trading Unit is twice this value and hence roughly £0.20 / MWh.

It should be emphasised that the resulting ELEXON credit or charge accrues to the BSC Party who owns the Energy Account to which the metered energy of the Production Interconnector BM Unit is credited. This Party need not be the Lead Party of the Production Interconnector BM Unit.

3.4.4 Summary of Trading Unit Benefits

Table A provides a summary of the beneficiary of each relevant net benefit.

Table A – Summary of Beneficiaries

BENEFIT	BENEFICIARY
BSUoS Benefit	Lead Party of Interconnector BM Unit
BSCCo Benefit	Party holding the Energy Account
TLM Benefit	Party holding the Energy Account
Imbalance volumes	Party holding the Energy Account

3.5 Worked Examples

3.5.1 Assumptions

The following quantitative assumptions hold in all the examples described below. These values indicate order of magnitude and are not intended to be precisely realistic.

- BSUoS benefit = £1.20 / MWh

The BSUoS benefit is calculated simply as twice the value of the BSP which is assumed here to be around £0.60 / MWh

- TLM benefit = £0.40 / MWh (2% of £20 energy price per MWh)

If the TLMs are 1.01 for offtaking Trading Units and 0.99 for delivering Trading Units, the transmission loss benefit[4] will be 0.02 (= 1.01 – 0.99) of metered energy. This corresponds to 2% which gives a monetary value of £0.40 per MWh when multiplied by an estimated energy price of £20 per MWh. It should be emphasised that the transmission loss benefit accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the Interconnector BM Unit.

- BSCCo benefit = £0.20 / MWh (as estimated in 5.2.3 above)

As noted above, this benefit depends on ELEXON's expenses and on aggregate energy flows on the Transmission System on a monthly basis. In general, the benefit increases with higher expenses and lower energy flows. It should also be noted that the BSCCo benefit accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the Interconnector BM Unit.

[4] As outlined in section 3.4.2, under P82, zonal transmission losses apply such that this benefit may actually be negative (i.e. a disadvantage).

3.5.2 Examples

The left-hand side of each diagram in the following examples shows certain BM Units and indicates whether or not they form a Trading Unit. Each BM Unit is assigned a number showing its half Hourly (HH) metered energy in MWh for a ½ hour Settlement Period. Positive volumes indicate generation. It is further assumed that the maximum magnitudes of QMij submitted by the Lead Party for the BSC Season for each BM Unit, which are used to determine the Generation and Demand Capacity (GC/DC), are synonymous with these Half Hourly metered energy volumes.

The arrows directed towards Trading Party Production or Consumption Account reflect whether the energy volumes attributed to the BM Unit will accrue to the Production or Consumption Account of the Lead Party. The determination of whether volumes accrue to a Production or a Consumption account is unaffected by whether the BM Units shown are in common or disparate ownership.

It is deemed that no net benefits are realised in Example 1. This configuration will be used as a baseline against which to assess net benefits in the other configurations. Example 2 represents a scenario where Interconnector BM Units are limited to forming Trading Units with other Interconnector BM Units. Example 3 represents a scenario where Interconnector BM Units are limited to forming Trading Units with other Interconnector BM Units, where flows onto or off the Interconnector are from contiguous or dedicated assets, and other BM Units linked by contiguous or dedicated assets. It should be noted that the third scenario identified by the SSMG, where Interconnector BM Units are limited to forming Trading Units with other Interconnector BM Units where flows onto or off the Interconnector are from contiguous or dedicated assets and other BM Units linked by contiguous or dedicated assets, is effectively covered by Examples 1 and 3 – with the former used where the BM Units are not linked by contiguous or dedicated assets, and the latter used where they are.

3.5.3 Example 1

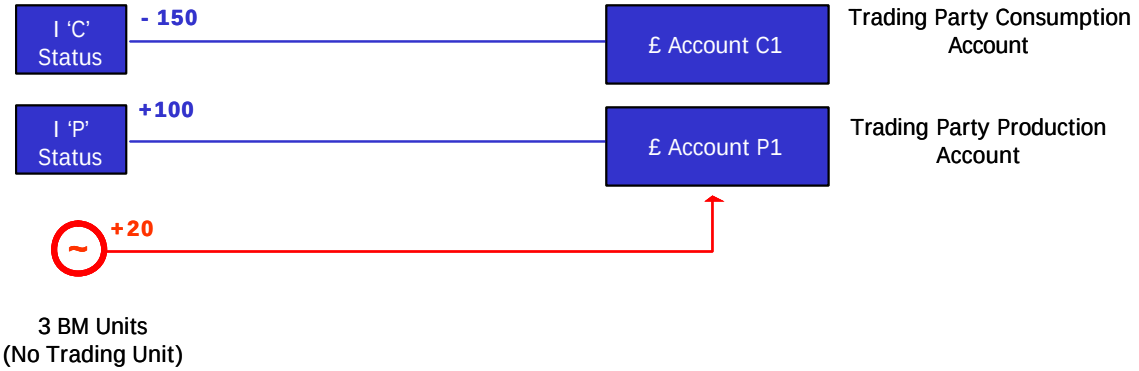


Table 1

BM Unit	P/C Status	BSUoS Benefit	Other Benefits
Interconnector 'C' Status	C	None	None
Interconnector 'P' Status	P	None	
Generation BM Unit	P	None	

Analysis: All three BM Units will be paying BSUoS charges at £0.60/MWh per Settlement Period. As a result I 'C' Status will pay £90, I 'P' Status will pay £60 and the Generation BM Unit will pay £12 in this Settlement Period, resulting in a total payment of £162. Similarly, all three BM Units will be incurring transmission losses and ELEXON charges for the energy account. For example, the energy from the Production Interconnector BM Unit will be multiplied by the delivering TLM and get reduced by 1%. Given a metered volume of 100 MWh at an assumed price of £20/MWh, this yields a transmission loss cost of £20 for the Production Interconnector BM Unit. Similarly, the ELEXON charge attributable to the Production Interconnector BM Unit at £0.10/MWh is roughly £10 for the given Settlement Period.

3.5.4 Example 2

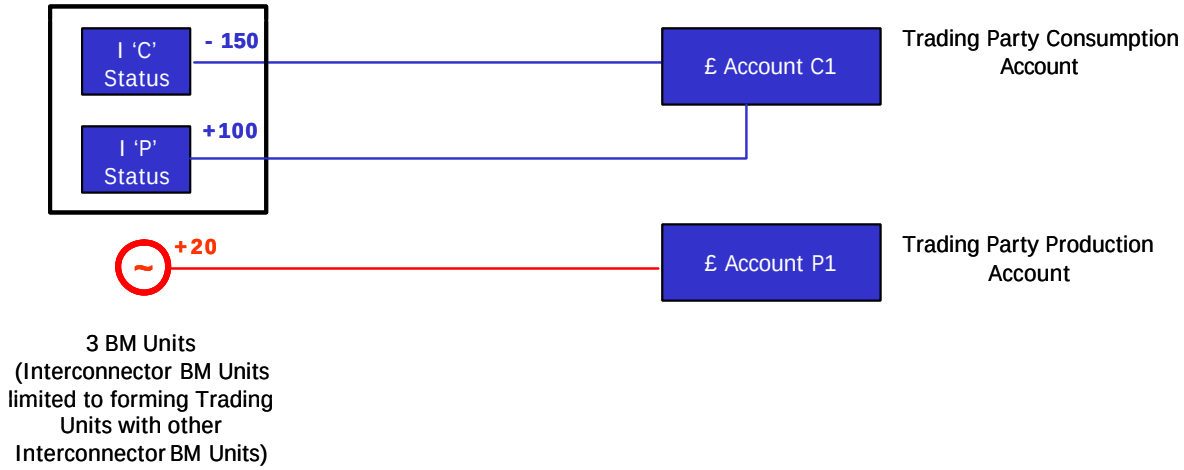


Table 2

BM Unit	P/C Status	BSUoS Benefit	Other Benefits
Interconnector 'C' Status	C	None	£40 TLM
Interconnector 'P' Status	C	£120	£20 BSCCo
Generation BM Unit	P	None	

Analysis: The BSUoS, TLM and BSCCo benefits are found by multiplying the relevant benefit rate by the 100 MWh of energy produced by the Interconnector Production BM Unit. It must again be emphasised that these figures represent the benefit and not the total charge for the relevant Party.

To facilitate comparison with Example 1, note that instead of incurring a £10 BSCCo charge, the Production Interconnector BM Unit will incur a £10 BSCCo credit, realising a benefit of £20 in total for the Energy Account during this Settlement Period. Additionally, instead of incurring £20 in transmission losses the Production Interconnector BM Unit will be credited with them, realising a benefit of £40 in total for the Energy Account during this Settlement Period.

3.5.5 Example 3

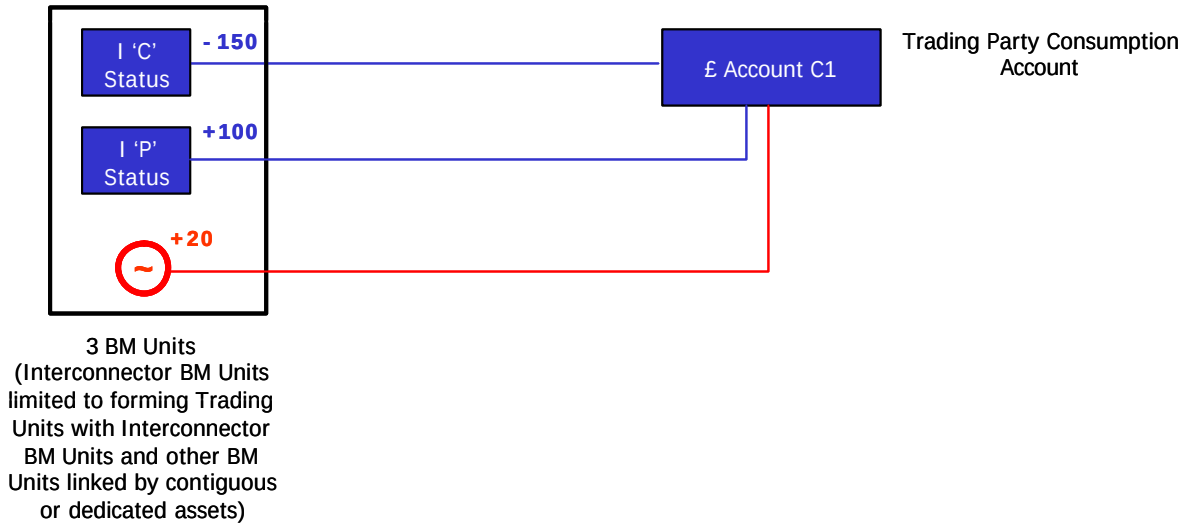


Table 3

BM Unit	P/C Status	BSUoS Benefit	Other Benefits
Interconnector 'C' Status	C	None	£48 TLM
Interconnector 'P' Status	C	£120	£24 BSCCo
Generation BM Unit	C	£12	

Analysis: The calculations and comparisons follow the same logic as the previous example. The differences from example 2 are as follows:

The BSUoS, TLM and BSCCo benefits are found by multiplying the relevant benefit rate by the 20 MWh of energy produced by the Generation BM Unit. It must again be emphasised that these figures represent the benefit and not the total charge for the relevant Party.

Note that instead of incurring a £2 BSCCo charge, the Generation BM Unit will incur a £2 BSCCo credit, realising an additional benefit of £4 in total for the Energy Account during this Settlement Period. Additionally, instead of incurring £4 in transmission losses the Generation BM Unit will be credited with them, realising an additional benefit of £8 in total for the Energy Account during this Settlement Period.

4 INITIAL CONCLUSIONS

On the basis of the foregoing the SSMG have initially concluded the following:

- The potential to enable Interconnector BM Units to form non-sole Trading Units represents a material issue;
- The current limitations, disallowing non-sole Trading Units for Interconnector BM Units, are discriminatory;
- Simply removing the current limitation may create an ambiguity in the interpretation of electrical proximity and possibly introduce another instance of discrimination between Interconnector BM Units and other BM Unit types. Hence, Applicable BSC Objective (c)[5] may not be better achieved;
- Limiting Interconnector Trading Units to Interconnector BM Units, without other limitations relating to electrical proximity, may also introduce such discrimination and would not, therefore, better achieve Applicable BSC Objective (c)[5];
- Limiting Interconnector Trading Units to Interconnector BM Units, along with a further limitation relating to electrical proximity (i.e. Option 3 in section 5.1 of this document), would restrict trading options, although would constitute an alleviation to the current restriction. Hence, to some extent, would facilitate better achievement of Applicable BSC Objective (c)[5];
- Creating a new treatment for Interconnector Trading Units would introduce additional complexity, although, in the light of the materiality considerations, would deliver the main benefit and, thus, remove any material element of discrimination. Hence, Applicable BSC Objective (c)[5] would be better achieved, but Applicable BSC Objective (d)[6] would not be better achieved (due to increased complexity associated with the introduction of a new Class of Trading Unit);
- The SSMG agreed that P139 would not influence achievement of Applicable BSC Objective (a)[7].

On Balance, it is the initial view of the SSMG that P139 would:

- **By restricting the limitations on Interconnector Trading Units to those associated with electrical proximity remove any discrimination, whilst retaining the basic concept of the Trading Unit and imposing minimal impact, better facilitate achievement of the Applicable BSC Objectives.**

The SSMG is seeking comment on these initial findings via industry consultation.

[5] (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.
[6] (d) Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.
[7] (a) The efficient discharge by the licensee of the obligations imposed upon it by this licence.

ANNEX 3: DOCUMENT CONTROL

a. Authorities

Version	Date	Author	Signature	Change Reference
0.1	03/10/03	Change Delivery		Initial Draft
0.2	13/10/03	Change Delivery		Updated following review
0.3	16/10/03	Change Delivery		Updated for SSMG Review
1.0	28/10/03	Change Delivery		Updated following SSMG Review

Version	Date	Reviewer	Signature	Responsibility
0.1	06/10/03	Change Delivery		Peer review
0.1	12/10/03	Change Delivery		Peer review
0.2	16/10/03	Change Delivery		Peer review
0.3	16/10/03	SSMG		Mods Group Review
1.0	28/10/03	Industry		Consultation

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. Related Documents

Ref.	Title	Owner	Issue date	Version
1	Modification Proposal P139		21/08/03	1.0
2	P139 Initial Written Assessment (IWA P139)	ELEXON	04/09/03	1.0
3	Requirements Specification for Modification Proposal P139 'Removal of Trading Unit restriction on Interconnector Users'	SSMG	28/10/03	1.0
4	Credit Assessment Load Factor Guidance (CG010)	ISG	24/04/03	5.0
5	The Statement of Use of System Charges	Transmission Company	01/04/03	3.0
6	BSCP 31-'Registration of Trading Units'	ELEXON	12/09/2003.	7.0

ANNEX 2: MODIFICATION GROUP

The Panel agreed with the recommendation in the IWA that the Settlement Standing Modification Group (SSMG) be convened to progress P139, as the Modification's subject matter falls within the remit of its Terms of Reference. The table below indicates the membership of the SSMG that is considering P139.

MEMBER	ORGANISATION
Roger Salomone (Chairman)	ELEXON
Thomas Bowcutt (Lead Analyst)	ELEXON
Neil Cohen (Technical Advisor)	ELEXON
Steve Drummond (Proposer)	EDF Trading Ltd
Phil Russell	TXU Europe
Robert Barnett	Campbell Carr
Marie Branch	National Power
Mark Manley	Centrica
Paul Jones	Powergen
Mark Pearce	National Grid Company
Sana Habib	Goldman Sachs
Joanne Ellis	Cornwall Consulting
Jerome Williams	Ofgem