

## Stage 03: Draft Solution to Identify Impacts

# P277 'Allow Interconnector BM Units to choose their P/C Status'

P277 proposes that Interconnector Users should have one Interconnector BM Unit per Interconnector. The Lead Party would be required to elect whether this Interconnector BM Unit's P/C Status is Production or Consumption.

This would replace the existing requirement to have two Interconnector BM Units per Interconnector (one with a fixed P/C Status of Production and one with a fixed P/C Status of Consumption).

The Impact Assessment for P277 closes:

**5pm on Monday 5 December 2011**

The Workgroup may not be able to consider late responses.



### High Impact:

- All existing and future Interconnector Users
- Interconnector Administrators
- Interconnector Error Administrators



### Medium Impact:

- Central Registration Agent (CRA)
- Settlement Administration Agent (SAA)
- Transmission Company



### Low Impact:

- ELEXON

What stage is this document in the process?

01 Initial Written Assessment

02 Definition Procedure

03 Assessment Procedure

04 Report Phase

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## Any questions?

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## About this Document

This document is the Draft Solution to Identify Impacts for P277. It summarises the proposed P277 solution requirements. It also summarises the changes – to the extent that the P277 Workgroup has been able to identify them – that will be required to participants' systems, BSC Central Systems, Code Subsidiary Documents and Configurable Items to implement the proposed P277 solution.

We are issuing this document for impact assessment by ELEXON, BSC Agents (AM/Dev service provider and BPO/Host service provider), the Transmission Company, BSC Parties and Party Agents in order to establish the impacts, costs and lead times of P277 (including any impacts which are not identified in this document). At this stage the Workgroup is not seeking your views on the pros or cons of P277, as these will be the subject of a subsequent industry consultation.

Please provide your response using the attached response form.

You can find more details on the scope of this impact assessment in Section 2.

## Further Information

You can find further documentation and information on P277 on the [P277 page](#) of the ELEXON website.

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### What is...

#### The issue?

Energy entering Britain over an Interconnector is assigned to a different Energy Account to energy leaving Britain. This can cause an Interconnector User to be in imbalance in both their Accounts, unless they notify an additional contract to balance their position.

#### The proposed solution?

Interconnector Users would only be assigned one BM Unit per Interconnector, and they would be required to elect this BM Unit's P/C Flag to determine whether the BM Unit's net Metered Volume is allocated to their Production or Consumption account.

### How are Interconnector BM Units currently configured?

When a BSC Party, in the role of an Interconnector User, signs up to trade over an Interconnector, they are assigned two BM Units by the Central Registration Agent (CRA) for that Interconnector in accordance with Sections K5.5 and K3.5 of the BSC.

The CRA assigns these BM Units in fixed pairs per Interconnector and Interconnector User as follows:

- A Production BM Unit for energy entering Britain over the Interconnector; and
- A Consumption BM Unit for energy leaving Britain over the Interconnector.

The Production/Consumption (P/C) Status of these BM Units is fixed as Production and Consumption respectively, and cannot be changed.

### What is P/C Status?

Every BM Unit has a P/C Status. This P/C Status is used to determine which of the Lead Party's Energy Accounts the BM Unit's net Metered Volume is allocated to:

- A **Production** Status will result in Metered Volumes being allocated to the Production Energy Account; and
- A **Consumption** Status will result in Metered Volumes being allocated to the Consumption Energy Account.

If a Party's net Metered Volumes and Energy Contract Volume Notifications (ECVNs) are not aligned to the same Account, the Party will be exposed to Imbalance Charges on both Accounts.

In the case of Interconnector BM Units, this means that energy from a Production BM Unit (i.e. energy entering Britain) is assigned to the Lead Party's Production Energy Account, while energy from a Consumption BM Unit (i.e. energy leaving Britain) is assigned to their Consumption Energy Account. As an Interconnector BM Unit's P/C Status is fixed, this cannot be changed.

### What problem does P277 identify with the current rules?

If a Party imports energy into Britain via one Interconnector with the intent of exporting the same energy out again via another Interconnector, the current rules mean they face a situation where they may end up in imbalance. This is because each of the two trades would end up in separate Energy Accounts. Without additional contracts, the current arrangements would leave both Energy Accounts in imbalance, leaving the Party open to being charged the System Buy Price/System Sell Price (SBP/SSP) spread over the whole amount.

Consider, for example, a Party buying energy in France and transporting it to Ireland via Great Britain. The energy entering Britain over the IFA Interconnector would be allocated to the Party's Production Account, while the energy leaving Britain over the Moyle Interconnector would be assigned to their Consumption Account.

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### Further Examples

For a worked example of the scenario where a generator wishes to sell their energy outside of GB, please see Appendix 1.

Appendix 1 also includes more detail of how transmission losses would affect the BM Unit Metered Volumes.

In this scenario, the Party would be Long (production exceeding consumption) in their Production Account and would be paid SSP for this amount. They would also be Short (consumption exceeding production) by an equal amount in their Consumption Account (not accounting for transmission losses), and would be charged SBP on that amount. As SBP is always greater than or equal to SSP, the Party would be charged more than they were paid, leaving them with a net imbalance charge. However, as the two energy volumes are actually equal and opposite, they would have netted to zero (not accounting for transmission losses) if they were allowed to be in the same Energy Account, meaning the Party would have been perfectly balanced.

This issue can be resolved by setting up an ECVN between the two Accounts,<sup>1</sup> but this is an additional administrative burden and potentially prone to human error by the Party.

This issue is not limited just to Parties who wish to transport energy through GB – for more examples please see Appendix 1.

## What is the proposed solution?

P277 proposes to allocate each Interconnector User one Interconnector BM Unit per Interconnector, rather than the existing pair of Production and Consumption BM Units per Interconnector. The Lead Party would be required to choose the BM Unit's P/C Status by electing a P/C Flag of either Production or Consumption.<sup>2</sup> This P/C Status would not change (regardless of the actual flow direction) unless the Lead Party subsequently elects to change its P/C Flag from Production to Consumption, or vice versa.

This means that both export and import volumes for the Interconnector User over that Interconnector would be associated with the same Interconnector BM Unit, and the Lead Party (by choosing its P/C Flag) would elect which of its Energy Accounts the BM Unit's resulting net Metered Volume is allocated to. In the situation described above, where a Party is importing energy over one Interconnector and exporting the same energy out over another, this would result in a net volume of zero in the Party's elected Energy Account – removing any imbalance issue.

This proposed solution does not impact the Isle of Man Distribution Interconnector. This is because it has a derogation from the Panel under BSC Section K5.2 such that it is not treated as an Interconnector (i.e. it does not have Interconnector BM Units or an Interconnector Error Administrator). Any other future Distribution Interconnector with such a derogation would also not be impacted. However, any future Distribution Interconnectors without such a derogation would be treated the same as a Transmission Interconnector, and so would be impacted by P277.

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<sup>1</sup> A Metered Volume Reallocation Notification (MVRN) cannot be used because BSC Section P3 only allows MVRNs from one Production Account to another or from one Consumption Account to another, and not from Production to Consumption or vice versa.

<sup>2</sup> The P/C Flag is the mechanism which CRA systems use to fix a BM Unit's P/C Status as Production or Consumption.

## 2 Summary of Impact Assessment Requirements

### Scope of Impact Assessment

The Workgroup is only currently considering one solution for P277, which is the Proposer's preferred solution (see Section 1). The detailed requirements of this solution are listed in Section 3.

The solution will impact the following participants in the BSC arrangements:

- BSC Parties (specifically Interconnector Users, Interconnector Administrators and Interconnector Error Administrators);
- The Transmission Company;
- ELEXON; and
- BSC Agents (specifically the Central Registration Agent (CRA) and possibly the Settlement Administration Agent (SAA)). At this stage we anticipate that the CRA impacts will be only on the Business Process Outsourcing/Host (BPO/Host) service provider and that there will be no CRA impact on the BSC Application Management and Development (AM/Dev) service provider. However, we seek confirmation of this through this impact assessment. We have identified a possible SAA impact on the BPO/Host service provider and/or on the AM/Dev service provider, and again seek confirmation of this through this impact assessment.

This impact assessment seeks to identify the full impacts of the P277 solution on affected participants, including the following:

- The changes which participants would need to make to systems, documents and/or processes to implement the requirements of P277 (including any not identified in this document);
- The implementation effort/costs which participants would incur in making these changes; and
- The lead times (from the point of Ofgem approving P277) that participants would need to make these changes.

For the purposes of this impact assessment, please provide costs/lead times for the following implementation approaches:

- **Implementation Approach A** – implement P277 on its own as a stand-alone change outside a normal BSC Release; and
- **Implementation Approach B** – implement P277 in a normal BSC Release.

We are also simultaneously issuing related Modification Proposal P278 'Treatment of Transmission Losses for Interconnector Users' for industry impact assessment. The solutions for these two changes are not dependent on each other, and will work separately or together. However, there may be cost-savings if the two changes are delivered at the same time. Please therefore indicate in your impact assessment responses whether there would be any reduction in your total combined cost/lead time for P277 and P278 if the two changes are implemented in parallel.

The proposed solution will require changes to the BSC (particularly Section K), Balancing and Settlement Code Procedure (BSCP) 15 'BM Unit Registration' and the CRA Service Description. It may also be useful to make a minor change to BSCP31 'Registration of Trading Units', to clarify that the P/C Status of Interconnector BM Units will be fixed by the Lead Party and will therefore remain unaffected by their Trading Unit's Generation Capacity and Demand Capacity values.<sup>3</sup> For the purposes of this impact assessment, you should assume that the changes to these documents will be drafted by the Workgroup, consulted on and agreed by the Panel as part of the P277 progression process before the Modification is sent to Ofgem for decision. Any other impacted documents will be amended following Ofgem's approval of P277. You can find a full list of the likely impacts in Section 4. Please highlight in your response if there are any additional impacts not identified in this Draft Solution.

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<sup>3</sup> BSC Section K5.7 and BSCP31 allow Interconnector BM Units to form Trading Units in certain circumstances, and this will remain unchanged by P277.

### 3 Detailed Solution Requirements

#### Requirements for proposed solution

The Workgroup has identified the following solution requirements for P277.

Note that the P277 solution is mandatory. It will therefore affect both existing and future Interconnector Users, Interconnector Administrators and Interconnector Error Administrators as explained further below.

The P277 solution is not intended to impact any reporting flows. For example, the CRA-I014 will still report the BM Unit's P/C Flag and P/C Status in the same way as currently.

The P277 rules under which Interconnector BM Units must elect their P/C Flag have been designed to be consistent (as far as possible/practical) with those which Approved Modification P268<sup>4</sup> will introduce for Exempt Export BM Units on 23 February 2012.

#### Requirement 1

##### **Existing Interconnector Users and Interconnector Error Administrators shall only have one Interconnector BM Unit per Interconnector**

- |     |   |
|-----|---|
| 1.1 | All existing Interconnector Users and Interconnector Error Administrators will need to re-register their existing Interconnector BM Units (i.e. each BM Unit with a BM Unit Type of 'I' and a BM Unit ID beginning 'I_') under BSCP15 so that they have only one Interconnector BM Unit per relevant Interconnector from the P277 Implementation Date. To achieve this, Interconnector Users and Interconnector Error Administrators shall deregister their current pair of BM Units for each Interconnector using form BSCP15/4.2, and register one replacement BM Unit per relevant Interconnector using form BSCP15/4.1. Using this process will enable the Lead Party to change BM Unit names/IDs to a new central convention for Interconnector BM Units that will be devised as part of the solution. It will also ensure that the Lead Party declares the Generation Capacity and Demand Capacity and elects the P/C Flag of the replacement Interconnector BM Unit. <sup>5</sup><br>In order to comply with the registration/de-registration timescales set out in BSCP15, Interconnector Users and Interconnector Error Administrators will need to submit form BSCP15/4.2 at least 20 Working Days before, and form BSCP15/4.1 at least 30 Working Days before, the P277 Implementation Date. As currently, the Lead Party for the BM Units will submit both of these forms to the CRA (BPO/Host service provider). |
| 1.2 | The Lead Party shall specify the P277 Implementation Date as the Effective From Date for each replacement Interconnector BM Unit.   |
| 1.3 | The Lead Party shall specify the day before the P277 Implementation Date as the Effective To Date of each existing pair of Interconnector BM Units. <sup>6</sup>  |

<sup>4</sup> 'Clarify the P/C status process for exempt BM Units'.

<sup>5</sup> Noting that any change in P/C Flag (and thereby in P/C Status) will affect any ECVNs and MVRNs.

<sup>6</sup> Noting that the CRA (BPO/Host service provider) may not be able to easily distinguish between a 'normal' Interconnector BM Unit deregistration made before the P277 Implementation Date and one which is made in preparation for the P277 arrangements.

## Requirement 1

1.4	All Lead Parties for Interconnector BM Units must re-register their Interconnector BM Units in time for the P277 Implementation Date. The CRA (BPO/Host service provider) shall automatically deregister any remaining Interconnector BM Unit pairs with an Effective To Date of the day before the P277 Implementation Date if the relevant Lead Party has not submitted form BSCP15/4.2 within the required timescales. In this scenario, the Lead Party will be unable to trade over the relevant Interconnector(s) from the P277 Implementation Date until such time as they have registered the required replacement Interconnector BM Unit(s). This will affect any ECVNs and MVRNs that the Lead Party has in place for the BM Units.
1.5	The CRA (BPO/Host) shall support the above requirements. We do not anticipate any impact on the AM/Dev service provider from these requirements; however we seek confirmation of this through this impact assessment.
1.6	The Transmission Company will need to deregister/re-register the relevant Interconnector BM Units within its own systems.

## Requirement 2

### **Existing Interconnector Users and Interconnector Error Administrators shall elect the P/C Flag of their replacement Interconnector BM Unit(s)**

2.1	All existing Interconnector Users and Interconnector Error Administrators will be required to elect the P/C Flag of each replacement Interconnector BM Unit at the time of re-registration, as part of form BSCP15/4.1. This will therefore have the same Effective From Date as the BM Unit, which will be the P277 Implementation Date.
2.2	The Lead Party will be required to elect a P/C Flag of either Production or Consumption for each replacement Interconnector BM Unit. This election will remain effective until such time as the Lead Party either makes a new election or deregisters the Interconnector BM Unit.
2.3	If the Lead Party does not elect the P/C Flag using form BSCP15/4.1 at the time of re-registration, the CRA (BPO/Host service provider) shall reject their registration application. The CRA will contact the Party to explain why their application has been rejected, and the Party can subsequently resubmit form BSCP15/4.1 with the P/C Flag election completed.
2.4	The CRA (BPO/Host service provider) shall be responsible for setting the P/C Flag of each Interconnector BM Unit. It shall ensure that, at all times from the P277 Implementation Date onwards, each Interconnector BM Unit has a P/C Flag setting of either Production or Consumption as elected by its Lead Party. The P/C Flag of an Interconnector BM Unit shall never be 'Null' and shall never be set by default in the absence of any election by the Lead Party. The BPO/Host service provider shall amend its documents and processes to support this requirement.
2.5	The CRA (AM/Dev service provider) shall ensure that, at all times, the P/C Status of each Interconnector BM Unit matches its P/C Flag setting. We do not expect this to require any changes to CRA systems since this is already an existing systems rule, and the P/C Flag is already set manually by the BPO/Host.

### Requirement 3

#### **New Interconnector BM Unit registrations will be for one BM Unit per Interconnector**

3.1	Any registrations for new Interconnector BM Units that will be effective on or after the P277 Implementation Date may only be for one Interconnector BM Unit per Lead Party per Interconnector. This applies both to Interconnector BM Units for Interconnector Users and those for Interconnector Error Administrators.
3.2	The CRA (BPO/Host service provider) shall reject any application from a Lead Party via form BSCP15/4.1 which would result in that Party having more than one Interconnector BM Unit per Interconnector. The CRA shall contact the Lead Party to explain why their request has been rejected, and the Party can subsequently resubmit their application.
3.3	ELEXON shall amend BSCP15 section 3.2 'Registration of Interconnector BM Units' and form BSCP15/4.1 to reflect the above requirements. Registration of Interconnector BM Units will otherwise be subject to the same process and timescales currently given in BSCP15.
3.4	The CRA (BPO/Host service provider) shall amend its documents and processes to reflect the above changes in the business rules it uses to validate Parties' applications to register Interconnector BM Units. We believe that all current validation of applications is carried out manually by the BPO/Host without any accompanying systems validation, <sup>7</sup> and therefore do not anticipate any impact on CRA systems and the AM/Dev service provider. However, we seek confirmation through this impact assessment.

### Requirement 4

#### **The P/C Flag for new Interconnector BM Units must be elected at the time of registration**

4.1	The Lead Party of any new Interconnector BM Unit that will be effective on or after the P277 Implementation Date shall elect their P/C Flag as part of their submission of form BSCP15/4.1. This election will therefore have the same Effective From Date as the BM Unit. This applies both to Interconnector BM Units for Interconnector Users and those for Interconnector Error Administrators.
4.2	The Lead Party will be required to elect a P/C Flag of either Production or Consumption for each new Interconnector BM Unit. This election will remain effective until such time as the Lead Party either makes a new election or deregisters the Interconnector BM Unit.
4.3	If the Lead Party does not elect the P/C Flag using form BSCP15/4.1, the CRA shall reject their registration application. The CRA shall contact the Party to explain why their request has been rejected, and they can subsequently resubmit their application with the P/C Flag election completed.
4.4	ELEXON shall amend BSCP15 section 3.2 and form BSCP15/4.1 to reflect the above requirements.

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<sup>7</sup> The AM/Dev impact assessment for previous Modification Proposal P259 'Provision of Applicable Balancing Services Volumes for Interconnectors' suggests that this is the case.

#### Requirement 4

4.5	The CRA (BPO/Host service provider) shall be responsible for manually setting the P/C Flag of each Interconnector BM Unit. It shall ensure that, at all times from the P277 Implementation Date onwards, each Interconnector BM Unit has a P/C Flag setting of either Production or Consumption as elected by its Lead Party. The P/C Flag of an Interconnector BM Unit shall never be 'Null' and shall never be set by default in the absence of any election by the Lead Party. As the BPO/Host already manually sets the P/C Flag of Interconnector BM Units, this will require the BPO/Host service provider to amend its documents and processes to reflect these new business rules.
4.6	We seek confirmation through this impact assessment as to whether there is any existing automated validation in CRA systems to generate a warning message where the P/C Flag of an Interconnector BM Unit is 'Null'. If there is, we expect this to remain unchanged under P277. If there is no existing systems validation, we do not propose to introduce any under P277. We therefore do not anticipate any impact on CRA systems and the AM/Dev service provider.

#### Requirement 5

##### **The Lead Party of an Interconnector BM Unit can re-elect its P/C Flag at any time**

5.1	The Lead Party of an Interconnector BM Unit will be able to re-elect the BM Unit's P/C Flag (i.e. change it from Production to Consumption, or vice versa) at any time by submitting a new BSCP15 form. This shall supersede their previous election from the Effective From Date specified on the form, which shall not be less than 2 Working Days away unless explicitly agreed by the CRA.
5.2	The new P/C Flag elected by the Lead Party must be either Production or Consumption. This election will remain effective until such time as the Lead Party either makes a new election or deregisters the Interconnector BM Unit.
5.3	The CRA shall, if there are no errors, confirm to the Lead Party the Effective From Date of the new Flag setting. If there are any errors, the CRA will reject the request and provide the Party with an explanation of why they have rejected the request. The Party can subsequently resubmit the request.
5.4	ELEXON shall amend BSCP15 to include a new section and form to support the above requirements.
5.6	The CRA (BPO/Host service provider) shall be responsible for manually amending the P/C Flag of each Interconnector BM Unit as requested by the Lead Party. It shall ensure that, at all times, the P/C Flag setting of each Interconnector BM Unit is that elected by its Lead Party.
5.7	The CRA (AM/Dev service provider) shall ensure that, at all times, the P/C Status of each Interconnector BM Unit matches its P/C Flag setting. We do not expect this to require any changes to CRA systems since this is already an existing systems rule, and the P/C Flag is already set manually by the BPO/Host. However, we seek confirmation through this impact assessment that CRA systems already allow the BPO/Host to manually amend an Interconnector BM Unit's P/C Flag at any time.

## Requirement 6

### **Interconnector Administrators will need to allocate the correct metered volumes to the correct Interconnector BM Units**

6.1	<p>From the first Settlement Period on the P277 Implementation Date, Interconnector Administrators will need to allocate the net metered volumes of each Party who traded across the Interconnector in each Settlement Period to that Party's single Interconnector BM Unit for that Interconnector.</p> <p>For the avoidance of doubt, this requirement will be implemented on a Settlement Day basis (i.e. these new requirements will only apply when allocating volumes for Settlement Days on or after the P277 Implementation Date).</p>
6.2	<p>The Interconnector Administrator shall allocate each Party's net metered volume over an Interconnector to that Party's single Interconnector BM Unit for that Interconnector, irrespective of whether it was a net import or a net export.</p>
6.3	<p>If the Transmission Company assigns Applicable Balancing Services Volume Data (ABSVD) to Interconnector BM Units, this will be assigned to the relevant single Interconnector BM Unit(s) from the P277 Implementation Date.</p>

## Requirement 7

### **The SAA will need to allocate the correct error volumes to the correct Interconnector Error Administrator BM Units**

7.1	<p>From the first Settlement Period on the P277 Implementation Date, the SAA will need to allocate the remaining metered volume on each Interconnector in each Settlement Period to the single Interconnector Error Administrator BM Unit for that Interconnector.</p> <p>For the avoidance of doubt, this requirement will be implemented on a Settlement Day basis (i.e. these new requirements will only apply when allocating volumes for Settlement Days on or after the P277 Implementation Date).</p>
7.2	<p>The remaining metered volume on each Interconnector will be allocated to the single Interconnector BM Unit of the Interconnector Error Administrator for that Interconnector, irrespective of whether it was a net import or a net export.</p>
7.3	<p>P277 will remove the existing business rule for an Interconnector BM Unit's Metered Volume (<math>QM_{ij}</math>) to be positive for a Production Interconnector BM Unit and negative for a Consumption Interconnector BM Unit. We do not anticipate any impact on the SAA (BPO/Host or AM/Dev) as a result of having both positive and negative volumes allocated to the same Interconnector BM Unit. This is because we believe that the SAA does not currently validate the sign of Interconnector BM Unit Metered Volumes against the BM Unit's P/C Status.<sup>8</sup> However, we seek confirmation through this impact assessment that this is the case (and if it makes any difference whether the Interconnector BM Unit is registered to an Interconnector User or an Interconnector Error Administrator – for example, given that the SAA currently allocates error volumes to Interconnector Error Administrator BM Units based on sign).</p>

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<sup>8</sup> The AM/Dev impact assessment for previous Modification Proposal P259 suggests that this is the case.

## 4 Likely Impacts

### Impact on BSC Systems and process

BSC System/Process	Potential impact
CRA	Changes will be required to how the CRA assigns Interconnector BM Units and their P/C Flags.

### Impact on BSC Parties and Party Agents

- Each future Interconnector User and Interconnector Error Administrator will be required to have only one Interconnector BM Unit per Interconnector and to elect that BM Unit's P/C Flag/Status.
- Each existing Interconnector User and Interconnector Error Administrator will need to deregister their existing pair of BM Units per Interconnector, reregister a replacement single Interconnector BM Unit per Interconnector and elect the P/C Flag/Status of their replacement Interconnector BM Unit(s).
- Interconnector Administrators and Interconnector Error Administrators will also need to assign flows to the correct BM Units.

### Impact on Transmission Company

National Grid would need to re-register Interconnector BM Units within their systems.

### Impact on ELEXON

Area of ELEXON	Potential impact
Release Management	ELEXON will manage the implementation project.
BM Unit Registrations	Changes to ELEXON's working practices may be needed.

### Impact on Code

Code Section	Potential impact
Section K	Changes will be required to implement the solution.
Section R	Changes may be required to implement the solution.
Section T	Changes may be required to implement the solution.

### Impact on Code Subsidiary Documents

CSD	Potential impact
BSCP15	Changes will be required to implement the solution.
BSCP31	A minor change may be needed to clarify that the P/C Status of Interconnector BM Units will be fixed by the Lead Party and will therefore remain unaffected by their Trading Unit's Generation Capacity and Demand Capacity values.
CRA Service Description	Changes will be required to implement the solution.

Impact on other Configurable Items	
Configurable Item	Potential impact
CRA System Documentation	Changes will be required to implement the solution.

Other Impacts	
Item impacted	Potential impact
ELEXON Info Sheets	Updates will be needed to the BM Units and P/C Status Information Sheets.

### Worked Examples – Generator exporting over an Interconnector

A Party owns a generation site in Great Britain. However, they wish to sell the energy generated here in Ireland. To do this, they need to trade the energy they generate over the Moyle Interconnector.

#### Current Arrangements

The Party generates 100MW in a Settlement Period. This is allocated to the generation site's BM Unit, which has a Production Flag. In this Settlement Period, the delivering transmission loss multiplier (TLM) is 0.99, and so their BM Unit Metered Volume is scaled down to +99MW. This is allocated to their Production Energy Account.

The Party elects to trade the 100MW out of Britain across Moyle. This is allocated to their Demand Interconnector BM Unit for Moyle, which has a Consumption Flag. In this Settlement Period, the offtaking TLM is 1.01, and so their BM Unit Metered Volume is scaled up to -101MW. This is allocated to their Consumption Energy Account.



The Party's resultant position is:

- +99MW Imbalance in their Production Account – the Party will be paid for this at System Sell Price (SSP).
- -101MW Imbalance in their Consumption Account – the Party will be charged for this at System Buy Price (SBP).

As SBP is always greater than or equal to SSP, the Party will generally end up paying more for the shortfall in their Consumption Account than they are paid for the excess energy in their Production Account.

In order to better balance their position, the Party elects to trade 99MW from their Production Account to their Consumption Account through an ECVN:

- The -99MW traded out of their Production Account will balance the +99MW of Credited Energy from the generation site, and leave their Production Account with zero imbalance.
- The +99MW traded into their Consumption Account will net with the -101MW of Credited Energy from the Interconnector, and leave a net -2MW imbalance in their Consumption Account – this will be charged at System Buy Price.

## Proposed Arrangements

The Party generates 100MW in a Settlement Period. This is allocated to the generation site's BM Unit, which has a Production Flag. In this Settlement Period, the delivering TLM is 0.99, and so their BM Unit Metered Volume is scaled down to +99MW. This is allocated to their Production Energy Account.

The Party elects to trade the 100MW out of Britain across Moyle. This is allocated to their one Interconnector BM Unit for Moyle, for which the Party has elected a Production Flag. In this Settlement Period, the offtaking TLM is 1.01, and so their BM Unit Metered Volume is scaled up to -101MW. This is allocated to their Production Energy Account.



Both of these volumes are allocated to the Party's Production Energy Account. They automatically net to give an overall imbalance of -2MW in the Production Account, for which the Party is charged at System Buy Price. No energy is allocated to their Consumption Account, which remains empty in this scenario.

## Transmission Losses and P278

In reality, the TLMs are not calculated until after the Settlement Period. This means that the exact volume of energy from each BM Unit will not be known when the Party sets up their ECVN, which must be done before Gate Closure.

This means that in the 'current arrangements' example, the Party's ECVN will not exactly match the volume of energy allocated to their Production Account, and so a small residual volume will be left. The Party will be paid or charged for this depending on whether this imbalance is positive or negative.

If separate Modification P278 is approved, the TLM for Interconnector BM Units will be fixed at 1. This means that any metered volumes the Party receives from Interconnector BM Units will not be adjusted for transmission losses.

## Other Scenarios

The principles of the above worked example can be equally applied to the following scenarios:

- A Party wishing to transport energy from France to Ireland via Britain – the energy entering Britain over the IFA Interconnector would be allocated to the Production Account and the energy leaving Britain over the Moyle Interconnector would be allocated to the Consumption Account.

- A Party importing energy from France to supply customers in Britain – the energy being traded across the IFA Interconnector would be allocated to the Production Account and the energy being supplied within Britain would be allocated to the Consumption Account.

In each case, under the current arrangements, the volumes would be allocated to different Energy Accounts. Under the P277 proposed solution, the Party could elect their P/C Flag for the Interconnector BM Unit(s) such that both volumes would automatically end up in the same Energy Account.