Stage 01: Initial Written Assessment

What stage is this document in the process?

01 Initial Written Assessment

02 Definition Procedure

03 Assessment Procedure

04 Report Phase

P259: Provision of Applicable Balancing Services Volumes for Interconnectors

Interconnectors built after 1 April 2005 must be able to provide Frequency Response to the System Operator. The Transmission Company submits related volume data to Settlement, but may not know which BM Unit the data relates to. Assigning this data incorrectly will expose the Interconnector to Imbalance Charges.

P259 aims to enable volume data to be assigned to the correct BM Unit. It also proposes that the Balancing Mechanism Reporting Agent reports related Interconnector information.

ELEXON recommends:
A 3 month Assessment Procedure

High Impact:
The Transmission Company; Interconnector Administrators; Interconnector Error Administrators.

Medium Impact:
Balancing Mechanism Reporting Agent; Settlement Administration Agent; Central Registration Agent.

Contents

1	Why Change?	3
2	Solution	6
3	Proposed Progression	8
4	Likely Impacts	10
5	Recommendations	11
6	Further Information	11

About this document:

This document is an Initial Written Assessment (IWA), which ELEXON will present to the Panel on 13 May 2010. The Panel will consider the recommendations and agree how to progress P259.

Further information is available in the P259 Modification Proposal which is an appendix to this document.

Any questions?

Contact:
Dean Riddell

dean.riddell@elexon.co.uk

020 7380 4366

1 Why Change?

Modification Proposal P259 aims to resolve an issue arising from the interaction of BSC processes and systems with a Grid Code requirement for new Interconnectors to be capable of providing Frequency Response. The Transmission Company must submit Applicable Balancing Services Volume Data (ABSVD) related to Frequency Response volumes into Settlement, but may not be able to identify the BM Units this data relates to.

Incorrectly assigned ABSVD will expose an Interconnector to spurious Imbalance Charges if the data is not re-submitted correctly. Several potential solutions to resolve this issue have been developed by a CUSC[1] industry group.

National Grid raised P259 to allow these options to be assessed and the optimal solution progressed. P259 also proposes that related Interconnector information is reported by the BMRA.

What is Frequency Response?

The balance between system demand and total generation determines overall system frequency.

An action undertaken to keep system frequency within specific required limits is Frequency Response.

Background

The Grid Code requires Interconnectors commissioned after 1 April 2005 to be capable of providing Frequency Response. This will apply to new Interconnectors, such as the UK-Netherlands Interconnector (BritNed) which is planned to begin commercial operations in early 2011. Existing Interconnectors are exempt from the Frequency Response requirement.

The provision of mandatory Frequency Response is governed by the Grid Code and settled largely under CUSC governance. However, the BSC (the Code) covers the allocation of Frequency Response energy imbalance volumes and the provision of market data.

The following two areas of the Code are impacted by the provision of Frequency Response by Interconnectors:

- The Settlement of Interconnector Error Administrator (IEA) BM Units; and
- The definition and reporting of related Interconnector data.

The Balancing Services Standing Group (BSSG), an industry standing group under CUSC governance, considered the Code changes required to allow Interconnectors to provide Frequency Response effectively. The BSSG recommended that:

1. ABSVD should be assigned to the IEA BM Unit to which the Settlement Administration Agent (SAA) allocates the metered volumes corresponding to the delivered Frequency Response; and
2. The Interconnector equivalents of three existing data items (Final Physical Notification, Maximum Export Limit and Stable Export Limit) should be reported by the Balancing Mechanism Reporting Agent (BMRA).

[1] Connection and Use of System Code.

Implicit auctions

Any solution to fulfil the two recommendations set out above must also take account of 'implicit auctions', which is the proposed means of trading over Interconnectors; the European Commission has already imposed a requirement for day-ahead implicit auctions on BritNed. This requirement is likely to be extended over the next few years to include other Interconnectors, such as the existing UK-France Interconnector (IFA).

The current understanding of BritNed operation is that volumes allocated by implicit auctions will be amalgamated with any errors being allocated to the Interconnector and then allocated to the IEA BM Units. The Interconnector Administrator will not include the implicit auction flows in the Metered Volumes submitted under BSCP04, 'BM Unit Metered Volumes for Interconnector Users'. The SAA will therefore automatically include these flows in the IEA Metered Volumes.

What are implicit auctions?

Implicit auctions allow buyers and sellers in each country to bid for Interconnector capacity on a day ahead basis.

For BritNed the existing exchange facility in the Netherlands will be extended to the UK.

Code defect

Accurate allocation of Frequency Response imbalance volumes

The Transmission Company calculates the expected change in energy delivery from a Party due to the provision of Frequency Response. The Transmission Company then submits this calculated volume into Settlement as Applicable Balancing Services Volume Data (ABSVD). The submission of ABSVD avoids exposing a Party to any Imbalance Charges caused by providing Frequency Response (provided that they deliver the calculated volume; over- or under-delivery will still incur Imbalance Charges).

The current rules for the submission of ABSVD require the Transmission Company to assign all volumes to BM Units. However, in the case of an Interconnector providing Frequency Response the Transmission Company will not necessarily be in a position to determine which BM Unit ABSVD should be assigned to. This is because the SAA determines the appropriate BM Unit depending on the overall direction (i.e. positive or negative) of the IEA volume.

The Code does not currently prohibit the provision of ABSVD for IEA BM Units. Therefore a 'do nothing' approach (as set out under Option 1, below) is potentially viable. However, this approach carries the risk of errors and resultant incorrect charging of Interconnectors, and could be considered an inefficient arrangement for provision of Frequency Response by Interconnectors.

P259 argues that the Code should be amended so that Interconnectors that provide Frequency Response have the same certainty that they will not incur Imbalance Charges (provided they deliver the correct volume) that other providers of Frequency Response already have.

Reporting by the Balancing Mechanism Reporting Agent

The BSSG also believes that the Code should be amended so that the BMRA is required to report data associated with Interconnectors. They believe equivalents of the following data should be reported for an Interconnector as a whole:

- Aggregate Final Physical Notification (FPN);
- Maximum Export Limit (MEL); and
- Stable Export Limit (SEL).

FPN, MEL and SEL data is used to calculate payments for Frequency Response, and will therefore help Interconnectors to understand their position in the same way that the equivalent data helps other Parties.

Rationale

The Proposer argues that P259 will remove a barrier to efficient participation by Interconnectors in the market for Frequency Response and will remove an inconsistency between the Grid Code and the Code, and will thereby better facilitate Applicable BSC Objectives (b)[2], (c)[3] and (d)[4] as follows:

- Objective (b): By allowing the System Operator to effectively utilise Frequency Response provided by Interconnectors where they are the most economic provider. If the proposed changes are not made Interconnectors will not be able to provide Frequency Response efficiently; and
- Objective (c): By promoting competition in the market for Frequency Response provision. The proposed changes would place Interconnectors on a comparable competitive footing with other Parties providing Frequency Response by giving them the same certainty that they will not incur undue Imbalance Charges (i.e. provided they deliver the correct volume) and providing them with equivalent data to help them understand their position.
- Objective (d): By removing a potential inconsistency between the Grid Code, which requires new Interconnectors to be able to provide Frequency Response, and the Code, which is at best silent about how this is achieved. Clarifying the BSC arrangements around provision of Frequency Response by Interconnectors will reduce the risk of confusion and error in the administration of the ABSVD arrangements.

Related changes

In addition to the Code changes proposed by P259 the BSSG is also considering CUSC changes associated with the provision of Frequency Response by Interconnectors. However, there is no interaction between these prospective CUSC changes and P259.

[2] Objective (b): The efficient, economic and co-ordinated operation of the national transmission system.

[3] Objective (c): Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity.

[4] Objective (d): Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.

2 Solution

There are two elements to the P259 solution: the assignment of accurate volume data; and the reporting of related Interconnector data.

Accurate assignment of volume data

P259 seeks to give Interconnectors that provide Frequency Response the same certainty that they will not incur Imbalance Charges (provided they deliver the correct volume) that other providers of Frequency Response already have. The practical issue to be overcome in order to achieve this parity is ensuring that the ABSVD is assigned to the correct BM Unit.

The SAA calculates a Metered Volume for the IEA which it allocates to either the Production or Consumption BM Unit depending on whether the volume is positive or negative. The IEA's ABSVD must be allocated to the same BM Unit as the Metered Volume to avoid Imbalance Charges resulting from successfully-delivered Frequency Response.

The BSSG suggested three potential solutions to resolve the issues around submission of ABSVD for Interconnectors. Though all of the options described below are set out in the P259 Modification Proposal, the Proposal specifies that (subject to confirmation that system costs are reasonable) it is proposed either Options 2 or Option 3 is progressed.

Because of this, and because it is believed that it would not be necessary to make changes to the Code for Option 1 (i.e. a Modification is not required to implement Option, 1), it is likely that the P259 Proposed solution will be based on either Option 2 or Option 3.

Option 1: 'Do Nothing'

The Code does not prohibit the provision of ABSVD for IEA BM Units, though there are issues around accomplishing assigning the ABSVD in practice, as set out above. This option would aim to make the best possible use of existing BSC Systems and processes. It is envisaged that no changes to the Code or to BSC Systems would be required.

Under this option the Transmission Company would assign the calculated ABSVD to the IEA BM Unit believed to have been in imbalance (i.e. either Production or Consumption).

If the IEA incurs Imbalance Charges because the Transmission Company assigned ABSVD incorrectly (e.g. to the Production account when it should have been assigned to the Consumption account) the IEA can ask the Transmission Company to resubmit corrected ABSVD.

Option 2: SAA assigns ABSVD to existing IEA BM Unit

Under this option the Transmission Company would provide ABSVD for an Interconnector to the SAA. The SAA would than assign the ABSVD to the IEA BM Unit that received the IEA Metered Volume (QM_{ij}), in accordance with section T4.1 of the Code.

Option 3: SAA allocates imbalance volumes to new IEA BM Unit

This option would require the IEA to be provided with a single BM Unit for Frequency Response (i.e. no Production and Consumption accounts) and error volumes. The SAA would then allocate error volumes to this BM Unit.

There are two variants of Option 3:

a) The IEA has a single BM Unit for Frequency Response in addition to the existing pair of BM Units. The existing pair of BM Units continues to be associated with the volumes resulting from Interconnector capacity auctions.

b) The existing pair of BM Units is decommissioned and all IEA volumes are assigned to the single new BM Unit.

Views of Proposer and BSSG

The Proposer notes that the BSSG believes that Option 1 appears to have a number of significant disadvantages:

- It imposes additional processes on the Transmission Company and IEA; and
- It makes the IEA responsible for checking Settlement data and identifying instances where ABSVD has been allocated to the incorrect BM Unit, thereby exposing them to spurious Imbalance Charges; this places the Interconnector at a disadvantage compared with other providers of Frequency Response, whose expected energy volumes due to delivery of Frequency Response are removed from their overall imbalance volumes.

The Proposer therefore suggests that, subject to confirmation that associated system costs are reasonable, either Options 2 or Option 3 is progressed under P259.

Reporting by the Balancing Mechanism Reporting Agent

P259 proposes that the Interconnector equivalents of FPN, MEL and SEL are reported by the BMRA, and suggests two potential solutions to achieve this.

Option 1: Report data by associating it with existing BM Units

Under this option the BMRA would report data for each Interconnector as a whole by associating it with an appropriate BM Unit, such as the IEA BM Unit. The BM Unit used could then be searched for using search functionality.

This solution would minimise system changes compared with the second suggested option because Interconnector data would be reported using existing BM Unit screens.

Option 2: Report data by introducing new functionality

This solution would require the introduction of new data flows and screens used specifically to report the Interconnector data. BMRA changes would be required to report the Interconnector equivalents of aggregate FPN, MEL and SEL.

This option would have a larger system impact than the first suggested solution, but has the potential benefit that it might offer more opportunity to tailor the reporting to the specific requirements of Interconnectors.

3 Proposed Progression

Approach

BritNed is the first Interconnector that will be subject to the requirement to be capable of providing Frequency Response. Although it is not due to begin operation until early 2011 some BritNed data should be available from November 2010. It is therefore preferable that the changes proposed by P259 are, if approved, implemented as soon as possible. Our understanding at this stage is that implementation as part of the February 2011 BSC Systems Release would be acceptable from National Grids perspective, but the Group should give consideration to the most appropriate implementation approach as part of the Assessment Procedure.

ELEXON notes that there are some outstanding areas for the P259 Group to consider (e.g. interaction with implicit auctions) as well as the development and finalisation of the preferred solution. However, we believe the solutions put forward to enable accurate assignment of ABSVD are already reasonably well understood.

We therefore recommend that a three month Assessment Procedure is undertaken. We believe this will be sufficient time to allow the P259 solution to be fully developed and assessed and will also allow P259 to be targeted at the February 2011 Release.

The risk to the Assessment timetable is that it becomes necessary to discuss the concepts around Interconnector Frequency Response provision that underlie the P259 proposals (e.g. that Frequency Response is provided by the Interconnector operator, not by Interconnector users).

Terms of Reference

P259 Terms of Reference		
The P259 Modification Group will be formed primarily from members of the Settlement Standing Modification Group (SSMG). The Group will consider the following items:		
Ref	**Area**	**Reason**
1	Development of the P259 solution.	Several options are put forward for solutions to address the various aspects of P259; the Group should fully develop a solution that addresses the identified defect, and which can be assessed against the Applicable BSC Objectives.
2	P259 benefits and impact of not addressing the identified defect.	P259 must be assessed against the Applicable BSC Objectives.
3	P259 Implementation approach.	BritNed begins full operation in early 2011, though it is understood that some BritNed data is due to become available sooner.

4	Any interaction with other aspects of Interconnector operation or provision of Frequency Response by Interconnectors.	P259 may affect existing or prospective Interconnector activities. For instance, the European Commission has imposed a requirement to determine Interconnector flows via implicit auctions for BritNed, so P259 must take into account implicit auctions.
5	Any interaction with other BSC systems and processes.	P259 may affect other Code activities. For instance, Interconnector FPNs are used for credit checking, so the impact of any solution for reporting Interconnector aggregate FPN on the accuracy of credit checking for the IEA must be considered.

Timetable and costs

Estimated progression costs based on proposed timetable	
Meeting costs (including Modification Group member expenses)	£1000 (4 meetings)
Non-ELEXON legal and expert costs	Zero
Service Provider impact assessment costs	£3000
ELEXON resource	71 man days, equating to approximately £14,000

Progression timetable	
Date	Activity
13 May 2010	IWA presented to Panel
24 May 2010	Modification Group Meeting 1
1 June 2010	Modification Group Meeting 2
8 June 2010	Issue Impact Assessments (BSC Agent, Industry and Transmission Company; all 10WD)
21 June 2010	Deadline for IA responses
24 June 2010	Modification Group Meeting 3
30 June 2010	Issue industry consultation (10WD)
14 July 2010	Deadline for consultation responses
20 July 2010	Modification Group Meeting 4
6 August 2010	Panel paper day
12 August 2010	Assessment Report presented to Panel

4 Likely Impacts

Impact on BSC Systems and process	
BSC System/Process	Potential impact
BMRA	Reporting data associated with provision of Frequency Response by Interconnectors.
SAA	Option 2: SAA assigns Interconnector ABSVD to IEA BM Unit that received the Metered Volume. Option 3: SAA assigns Interconnector ABSVD to new IEA BM Unit.
CRA	Option 3: CRA database changed to commission new Frequency Response BM Unit and decommission existing BM Unit pair for the IEA (depending on solution variant).

Impact on BSC Parties and Party Agents
Interconnector Administrators, Interconnector Error Administrator and BSC Agents would be impacted. Impacts vary across the various solution options.

Impact on Transmission Company
Depending on solution option, Transmission Company submits Interconnector ABSVD against IEA BM Unit or provides the data to the SAA.

Impact on ELEXON	
Business area	Potential impact
Implementation	As part of P259 implementation ELEXON's Change Implementation Team would make Code changes and manage BSC System changes.

Impact on Code	
Code section	Potential impact
Q, Balancing Mechanism Activities	Amend Q6.4 to specify that Applicable Balancing Services Volume Data may be provided for BM Units and/or Interconnectors.
T, Settlement and Trading Charges	Option 2: add new paragraph to T4.1 requiring SAA to allocate ABSVD for an Interconnector to the IEA BM Unit that received the Metered Volume (i.e. the Production BM Unit where QM_{ij} is positive and the Consumption BM Unit where QM_{ij} is negative). Option 3: add new paragraph to T4.1 requiring SAA to allocate ABSVD for an Interconnector to the new IEA BM Unit.
K, Classification and Registration of Metering Systems and BM Units	Option 3: amend K5.5 to reflect new configuration of IEA BM Units.

5 Recommendations

On the basis of the initial written assessment, ELEXON invites the Panel to:

- DETERMINE that Modification Proposal P259 progresses to the Assessment Procedure;
- AGREE the Assessment Procedure timetable such that an Assessment Report should be completed and submitted to the Panel at its meeting on 12 August 2010;
- DETERMINE that the P259 Modification Group should be formed primarily from members of the Settlement Standing Modification Group; and
- AGREE the Modification Group's Terms of Reference.

Recommendation

Progress to three month Assessment Procedure

6 Further Information

More information is included in the P259 Modification Proposal form which is Attachment A to this IWA.

Glossary	
Term/acronym	Meaning
ABSVD	Applicable Balancing Services Volume Data.
BSSG	Balancing Services Standing Group (a CUSC industry standing group).
BritNed	UK-Netherlands Interconnector.
IFA	UK-France Interconnector.
IA	Interconnector Administrator
IEA	Interconnector Error Administrator.
SAA	Settlement Administration Agent.
BMRA	Balancing Mechanism Reporting Agent.
CRA	Central Registration Agent.
FPN	Final Physical Notification.
MEL	Maximum Export Limit.
SEL	Stable Export Limit.
Implicit auction	Implicit auctions allow buyers and sellers in each country to bid for Interconnector capacity on a day ahead basis.
Explicit auctions	Explicit auctions allow customers to buy capacity for defined capacities, flow direction and time durations (this model is currently used for the IFA, Dutch-Belgian and Dutch-German interconnectors).