



Stage 04: Draft Modification Report

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

The Grid Code requires Interconnectors built after 1 April 2005 to be able to provide Mandatory Frequency Response. The Transmission Company submits volume data to Settlement to offset the resultant energy imbalance, but will not know to which BM Unit this data should be assigned. Incorrectly assigned data will expose the Interconnector Error Administrator to Imbalance Charges.

P259 would ensure volume data is assigned to the correct BM Unit. It would also require the Balancing Mechanism Reporting Service to publish Interconnector information equivalent to data reported for generators that provide Mandatory Frequency Response.



Initially, the Panel recommends **approval** of P259



High Impact: National Grid, Interconnector Error Administrators if P259 not implemented (zero implementation impact for both)



Medium Impact: BSC Agents (Settlement Administration Agent and Balancing Mechanism Reporting Agent)



Interconnector Administrators, Interconnector Users and all other BSC Parties are **not impacted** by P259

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

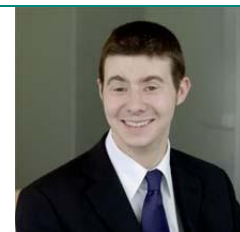
Page 1 of 22

© ELEXON Limited 2010



Any questions?

Contact:
Dean Riddell



**dean.riddell@
elexon.co.uk**



020 7380 4366

Contents

1	Summary	3
2	Why Change?	5
3	Solution	6
4	Impacts & Costs	9
5	Implementation	11
6	The Case for Change	13
7	Panel Discussions	15
8	Initial Recommendations	22
9	Further Information	22
	Attachment A : Detailed Assessment	22
	Attachment B : Legal Text Proposed	22

About this document:

This document is the P259 Draft Modification Report, which ELEXON will update following the P259 Report Phase Consultation and present to the Panel on 9 September 2010. The Panel will consider the recommendations in the report and agree a final view on whether or not this change should be made.

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 2 of 22

© ELEXON Limited 2010

Why Change?

The Grid Code requires Interconnectors commissioned after 1 April 2005 to have the capability to provide Mandatory Frequency Response. The first Interconnector affected by this requirement is the BritNed Interconnector between Great Britain and the Netherlands.

For generators that provide Mandatory Frequency Response, the Transmission Company submits Applicable Balancing Services Volume Data (ABSVD) against the generator's Production BM Unit to ensure it does not incur imbalance volumes due to correct delivery of instructed Mandatory Frequency Response. However, unlike for other providers of Mandatory Frequency Response, for an Interconnector the Transmission Company will not be able to identify which of the two Interconnector Error Administrator (IEA) BM Units (Production or Consumption) ABSVD should be assigned to. Incorrectly assigned ABSVD will expose the IEA to spurious Imbalance Charges unless corrected data is submitted.

P259 would resolve this issue by amending the Settlement calculations to correctly assign ABSVD for Interconnectors, ensuring that Interconnectors required to be able to provide Mandatory Frequency Response are not disadvantaged compared with generators. P259 would avoid the need for National Grid to operate a workaround to correctly allocate ABSVD, giving an estimated saving of between £14,000 and £50,000 per annum (per Interconnector and depending on how often Mandatory Frequency Response is instructed).

P259 would also require the Balancing Mechanism Reporting Agent (BMRA) to report related Interconnector information on the Balancing Mechanism Reporting Service (BMRS) to give consistency with the information already published for generators.

Solution

The Settlement Administration Agent (SAA) systems would assign ABSVD to the correct IEA BM Unit in Settlement, i.e. to the BM Unit which is assigned the overall Imbalance volume (the Interconnector error volume).

P259 relates to Mandatory Frequency Response, but the P259 solution also supports correct allocation of any Interconnector ABSVD, i.e. for Frequency Response that is not mandatory or resulting from other Balancing Services. This is consistent with the current treatment of generators providing commercial Frequency Response; the BSC does not distinguish between different types of ABSVD, but simply supports allocation and reporting of ABSVD associated with a BM Unit.

Existing BMRS functionality (file structures and displays) will be used to report the equivalent Interconnector data. This minimises BSC Agent impact/cost and supports future changes in the derivation of the data (which will be determined outside the BSC under other codes, and may therefore change over time).

The EU Third Package

The Government is considering the implementation of the European Union (EU) Third Internal Energy Market Package (the 'Third Package'). Assessment of P259 took the Third Package into consideration as much as possible, and the Group believes that their agreed P259 solution is the best approach in light of the current baseline and the remaining uncertainty around the outcome of Third Package implementation.

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 3 of 22

© ELEXON Limited 2010

Impacts & Costs

Implementation of P259 would not directly impact Parties, since the SAA system changes would not affect Parties and existing BMRS functionality is used. However, some Parties may wish to amend their processes or systems in order to make use of the BMRS data.

The Settlement aspect of the solution does not directly impact National Grid or BritNed, and saves the cost and effort of operating a workaround to identify incorrect allocation of ABSVD and correctly reallocate it. Under P259, National Grid would be required to provide BMRS data, but no additional costs are anticipated due to this data provision because this activity is subsumed in National Grid's wider (non-BSC) development work as it also requires the data for its own use.

Implementation of P259 would impact central BSC Systems, with an associated cost of £73,700. The estimated ELEXON cost to implement P259 is £9,600 for activities directly related to P259 implementation (i.e. excluding project management costs, which will vary depending on the extent to which implementation of P259 can be aligned with other system changes).

Implementation

The Panel recommends that P259 is implemented on:

- 31 March 2011 if an Authority decision is received on or before 21 October 2010; or
- The next available BSC Release occurring not less than 26 weeks after approval if the Authority decision is received after 21 October 2010.

Implementation on 31 March 2011 would coordinate with the commencement of live operation of BritNed on 1 April 2011. Implementation after 1 April 2011 could require National Grid and BritNed to operate a workaround solution to allocate ABSVD in the interim, if BritNed is instructed to provide Mandatory Frequency Response.

The Case for Change

The Group unanimously agreed that P259 facilitates achievement of the Applicable BSC Objectives compared with the current baseline. This view was supported by respondents to the P259 Assessment Procedure Consultation. The Group identified benefits against all the Objectives, though not all members agree with all identified benefits. P259 does not conflict with the approaches under consideration for implicit auctions for Interconnector capacity.

The Panel agreed by majority an initial view that P259 facilitates achievement of the Applicable BSC Objectives compared with the current baseline.

Recommendations

The Panel recommends that P259 Proposed Modification should be approved.

2 Why Change?

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 Mandatory Frequency Response.

Grid Code modification H/04 'Changes to Incorporate New Generation Technologies and DC Interconnectors' obligated DC Converters¹ commissioned after 1 April 2005 to meet certain technical requirements. These included having the capability to provide Mandatory Frequency Response. The first DC Converter affected by this change is the BritNed Interconnector between Great Britain and the Netherlands, which is currently expected to become operational on 1 April 2011.

The Transmission Company submits Applicable Balancing Services Volume Data (ABSVD) equal to the Mandatory Frequency Response volumes it expects from a BM Unit to account for the potential Imbalance caused by provision of Frequency Response. ABSVD is submitted into Settlement against the relevant BM Unit. However, an Interconnector Error Administrator (IEA) uses both Production and Consumption BM Units (and Energy Accounts), whereas a standard generation BM Unit uses only the Production BM Unit/Account. The Transmission Company therefore always assigns ABSVD to the Production BM Unit of a generator, but will not be able to identify which IEA BM Unit (Production or Consumption) Interconnector ABSVD data should be assigned to.

Incorrectly assigned ABSVD will expose the IEA to spurious Imbalance Charges unless corrected data is submitted. Generators providing this service are not affected in this way.

A working group under the Connection and Use of System Code (CUSC) considered the facilitation of the Grid Code Interconnector requirements under the CUSC and BSC. This CUSC group developed several potential BSC solutions to resolve this issue. The P259 Modification Group developed one of these options as the P259 Proposed Modification, as set out in this report. The Group also considered various other solutions options, which are described in Attachment A, which also details the reasons the Group discounted them.

Under P259 the Balancing Mechanism Reporting Agent (BMRA) would report related Interconnector information on the Balancing Mechanism Reporting Service (BMRS), as done for other Mandatory Frequency Response providers. The BMRS publishes data for generators, and P259 contends that some equivalent data should be published for Interconnectors that are now subject to the same requirement to be able to provide Mandatory Frequency Response.

If P259 is not implemented National Grid will need to operate a workaround solution in conjunction with BritNed in order to correctly allocate ABSVD. Implementation of P259 Proposed would avoid the need for this workaround, giving an estimated saving to National Grid of £14,000 - £50,000 per annum (based on operation with one Interconnector required to be able to provide Mandatory Frequency Response).

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 5 of 22

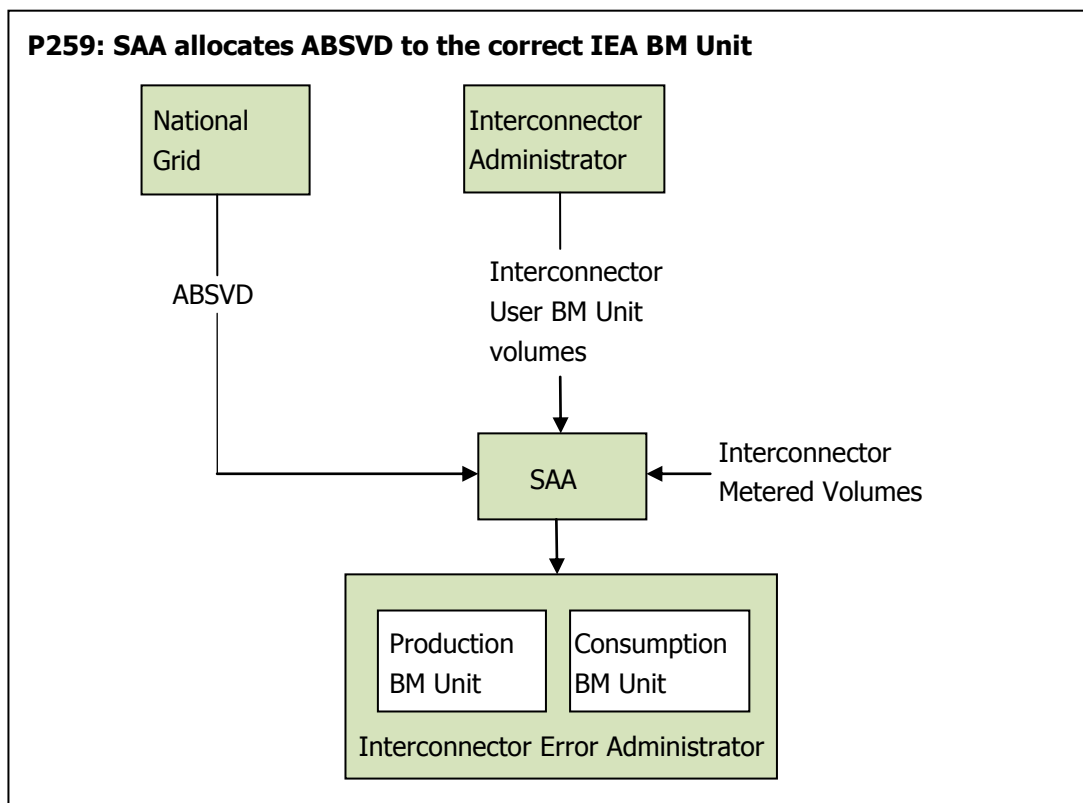
© ELEXON Limited 2010

¹ An Interconnector is a DC Converter.

Settlement: SAA assigns ABSVD to the correct IEA BM Unit

This solution was suggested in the P259 Modification Proposal (as option 2). Currently National Grid would assign ABSVD to the IEA but, as identified by P259, cannot determine with certainty the correct IEA BM Unit (Production or Consumption) to which the ABSVD should be assigned.

Under the P259 solution the SAA assigns ABSVD to the correct IEA BM Unit of the existing IEA BM Unit pair (Production or Consumption), such that it is correctly taken into account in the IEA Metered Volume (i.e. the error volume, net of Interconnector User volumes).



Requirement 1: National Grid will notify the SAA of the appropriate ABSVD volume for the IEA with no regard to the IEA BM Unit to which it should be correctly allocated. As a default National Grid will notify the ABSVD against the Production BM Unit, in line with the process for generators.

Requirement 2: The SAA will determine which IEA BM Unit should be allocated the ABSVD (i.e. the same BM Unit that is allocated the IEA BM Unit Metered Volume) and allocate the ABSVD to that BM Unit. The SAA will then carry out Settlement calculations taking into account the ABSVD, in the same way it would at present.

The SAA performs the determination of which BM Unit to assign ABSVD to as part of each Settlement Run, i.e. as part of the Initial Interim (II) run, again at the Settlement Final (SF) run, and at each subsequent Reconciliation Settlement Run. Note that the result might change from one run to the next due to amendment of the physical meter readings from the Central Data Collection Agent (CDCA) or the Interconnector User Metered Volumes from the IA.

Requirement 3: The Balancing Mechanism Reporting Agent (BMRA) will report the ABSVD data as provided by National Grid. The ABSVD would therefore be reported against the Production BM Unit, regardless of whether the SAA ultimately assigns it to the Consumption BM Unit in subsequent Settlement Runs. This is consistent with the concept

that the data reported on BMRS is indicative. No change to BMRA systems or processes is required since the BMRS already publishes ABSVD in this way.

Reporting: BMRS reports Interconnector information

The Central Registration Agent (CRA) will allow the Transmission Company (National Grid) to register a 'pseudo-BM Unit' representing the Interconnector as a whole, for the purpose of reporting Interconnector information. Such a pseudo-BM Unit would be separate to any existing BM Unit, e.g. the IEA BM Unit pair. The pseudo-BM Unit will be registered using normal BSCP15 processes, but will not have the same obligations as a real BM Unit, e.g. it will not have Aggregation Rules or Metered Volumes associated with it and will not be used in any Credit or Settlement calculations.

The CRA will issue this Registration data to the BMRA, Energy Contract Volume Allocation Agent (ECVAA) and Funds Administration Agent (FAA) using the existing CRA-I015 flow. The BMRA will validate the Registration data using the existing business rules.

The BSC will allow the Transmission Company to send to the BMRA, via the BMRA-I004 flow, the Interconnector equivalents of any data which is provided for other (generator) BM Units in this flow. This is likely to initially include (but will not be limited to) equivalent Final Physical Notification (FPN), Maximum Export Limit (MEL) and Stable Export Limit (SEL) values (hereafter called pseudo-FPNs, pseudo-MELs and pseudo-SELs, respectively).

The BMRA will process the equivalent items in the same way as for other BM Unit data values, i.e. BMRS will report these values on the BM Unit Data screen and the TIBCO message BMRA-I004 will include them. The Site Help Section on the BMRS will explain the concept of the pseudo-BM Units and the meaning of the data and the extent to which it is equivalent to generator data, e.g. FPN, MEL and SEL. Since the Transmission Company will register the pseudo-BM Unit, pseudo-FPN data will not impact Trading Charges or Credit Cover requirements for any Party because the Transmission Company is not subject to Imbalance Charges or Credit Cover requirements.

The Group agreed that the reporting solution should be as flexible as possible to avoid a BSC Modification being required in the future to enable the Transmission Company to report other information or data relating to other Interconnectors. The decision on what Interconnector data should be reported using a pseudo-BM Unit falls outside the BSC (under the CUSC/Grid Code) so this data may change over time. For example, the CAP182 working group is discussing the requirements for Interconnector equivalent MEL.²

Using 'pseudo' BM Units, existing BM Unit files and existing BMRS displays minimises the impact on the BMRS and allows changes in the data items reported. National Grid will provide values against the FPN, MEL and SEL (and possibly other) fields and the BMRA will report these using existing processes. If the data changes over time, the explanation in BMRS Site Help Section will be updated to reflect this.

This approach also has the advantage that, as an 'enabling' solution, it will not delay the implementation of P259 (and therefore the Settlement side of the solution), i.e. it is not necessary to wait until National Grid can provide the data to the BMRS in November 2011 (when it has completed its wider systems work).

The Code will not restrict the BMRS solution to only those Interconnectors required to be capable of Mandatory Frequency Response provision. It may be considered beneficial in future to report data for other Interconnectors, e.g. for commercial Frequency Response,

² National Grid has indicated that equivalent FPN data will be a minute-by-minute delivery programme for the Interconnector, MEL will be its capability (likely to be an unchanging value unless there is an outage) and SEL will be the lower stable limit for power imports into GB (resubmitted on any change). This may change depending on CUSC/Grid Code discussions, and National Grid may report other Interconnector equivalent data in future.

so it is sensible that the BSC should not excessively restrict the reporting of data for Interconnectors. P259 will enable the Transmission Company to create a pseudo-BM Unit for any Interconnector and report any Interconnector-equivalent data against that pseudo-BM Unit. Any restrictions to this would sit outside the BSC.

The EU Third Package

Some further background on the Third Package can be found in Attachment A. The Group noted the Government's ongoing consideration of implementation of the Third Package, and its potential implications for the treatment of Interconnectors as providers of Mandatory Frequency Response services. There remains uncertainty around the outcome of Third Package implementation.

The Group considered a number of different solution options for P259 and concluded that attempting to 'future-proof' the P259 solution against possible or probable outcomes of Third Package implementation was likely to significantly increase complexity and cost and may not fully address the defect identified by P259. The Group believes that it not possible to effectively take into account all possible outcomes of Third Package implementation, but that the P259 solution addresses the defect identified by P259 with respect to the current baseline and is the most pragmatic considering the likely outcome of Third Package implementation. Respondents to the P259 Assessment Procedure Consultation support this view.

The Authority recently issued a [consultation](#) on the Third Package implementation, which indicated Interconnectors are likely to be certified as transmission system operators. The Authority has until March 2012³ to certify transmission system operators, so even if the Third Package means Interconnectors are no longer required to be able to provide Mandatory Frequency Response, there would still be a period in which they could be instructed to do so.

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 8 of 22

© ELEXON Limited 2010

³ March 2013 in some limited circumstances.

4 Impacts & Costs

Costs

ELEXON Cost		ELEXON Service Provider cost	Total Cost
Man day	Cost		
40 ⁴	£9,600	£73,700	£83,300

Indicative industry costs

Transmission Company ⁵	Zero
Interconnectors required to be able to provide Mandatory Frequency Response	Zero
Other Parties (including Interconnectors not required to be able to provide Mandatory Frequency Response)	Zero

Impacts

Impact on BSC Systems and process

BSC System/Process	Potential impact
BMRA	Reporting data associated with provision of Frequency Response by Interconnectors.
SAA	Assigning Interconnector ABSVD to IEA BM Unit that received the Metered Volume.

Impact on BSC Parties and Party Agents

No direct impact, although some Parties may wish to amend their internal systems and/or processes to make use of the new BMRS data.

Impact on Transmission Company

Transmission Company would need to register Interconnector pseudo-BM Units and provide data for reporting by the BMRA.

Impact on ELEXON

Area of ELEXON's business	Potential impact
Management of BSC change and BSC Agents	Manage P259 implementation including BSC documentation changes, service provider activities and systems testing.
BM Unit registration	Update local working instructions to manage registration of pseudo-BM Units for BMRS reporting.
Performance Assurance	Make any changes to the Settlement Risk Register and/or BSC Audit which may be required to reflect the new SAA process for reallocating ABSVD.

⁴ This estimate does not include project management costs, which will vary depending on whether P259 is implemented at the same time as other system changes.

⁵ National Grid has significant costs associated with utilising Mandatory Frequency Response from Interconnectors, but these are outside the BSC and not attributable to P259.

Impact on Code	
Code section	Potential impact
K, Classification and Registration of Metering Systems and BM Units	Add new paragraph to enable the Transmission Company to register 'pseudo-BM Units' for the purpose of reporting data for Interconnectors equivalent to data reported for other BM Units.
Q, Balancing Mechanism Activities	Add paragraphs to describe the arrangements for the Transmission Company submitting Interconnector data to the BMRA.
T, Settlement and Trading Charges	Add new paragraph to require Interconnector ABSVD to be re-allocated to the IEA BM Unit that received the Metered Volume (i.e. Production BM Unit where QM_{ij} is positive and Consumption BM Unit where QM_{ij} is negative).
V, Reporting	Amend Annex V-1, Tables of Reports, to describe reporting of Interconnector data.
X, Definitions and Interpretation	Annex X-1, General Glossary: amend definition of 'Applicable Balancing Services Volume Data' and add definition of 'Interconnector Equivalent Data'.

Impacted configurable items
BSCP15 'BM Unit Registration'
SAA Design Specification
SAA System Specification
SAA User Requirements Specification

Implementation Approach

The required BSC Agent lead time of 6 months means that implementation in the February 2011 Release, as originally suggested in the Modification Proposal, is unfeasible. The Proposer suggested February 2011 implementation so P259 would be in place by the time BritNed becomes operational, but the latest advice from BritNed is now that it will become operational on 1 April 2011.

Though National Grid will not complete its wider systems development (which is outside P259 and the BSC) for using Mandatory Frequency Response from Interconnectors until November 2011, it could use workaround processes (also outside the BSC) to instruct BritNed to deliver Mandatory Frequency Response from 1 April 2011 onwards.

The Group therefore recommends the following Implementation Date for P259:

- 31 March 2011 if an Authority decision is received on or before 21 October 2010; or
- The next available BSC Release occurring not less than 26 weeks after approval if the Authority decision is received after 21 October 2010.

For example, the next two available Releases after 31 March 2011 are 30 June 2011 (requiring approval to be received by 30 December) and 3 November 2011 (requiring approval to be received by 5 May 2011).

Implementation on 31 March 2011 does not correspond to a standard BSC Release. However, part of the rationale for using standard Releases is to align Parties' system impacts with predictable Release timetables, but P259 does not require any direct implementation activities of Parties. Another reason for standard Releases is to lower overall implementation costs by combining project management activities, but there is no guarantee that project management costs would be reduced by P259 is implemented in a standard Release, as no other system changes are currently targeted at the June or November 2011 Releases. Additionally, ELEXON could manage a 31 March 2011 delivery as an extended February 2011 Release (i.e. coordinating some work and overheads with the February Release).

The Group consulted on a 1 April 2011 implementation, and respondents supported this approach. However, Pending Modification Proposal P260⁶ will be implemented on 31 March 2011, if approved. A P259 Implementation Date of 31 March 2011 rather than 1 April 2011 would allow ELEXON to achieve cost and efficiency savings by sharing project management activities between these two changes and by making the necessary Code updates in parallel (both changes impact Section V of the BSC). The P259 solution can in any case remain in the central systems unused until needed.

ELEXON would compress its implementation timetable by one month (from 6 to 5 months) to achieve implementation on 31 March 2011. This would slightly increase the project risk, but the risk to project delivery would be manageable, and would only potentially affect National Grid and BritNed. Neither the Group nor consultation respondents have identified any significant disadvantage of implementing P259 outside a normal Release.

The Group therefore agreed that a 31 March 2011 implementation is the most appropriate approach for P259, given that it provides a solution from the point that the defect first

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 11 of 22

© ELEXON Limited 2010

⁶ Extension to data provided to the Transmission Company in the TUoS Report

potentially manifests itself (i.e. when BritNed goes live) and avoids the need for a manual workaround to correctly allocate ABSVD in Settlement.

The open-ended fallback option of the next available Release is included because the Group acknowledges that the Authority may consider that its decision on P259 is dependent on the outcome of the EU Third Package work. The outcome and timescales of this work are controlled by the Government and outside the control of the Authority, leading to uncertainty as to when a decision on P259 may be made.

In this case National Grid and BritNed would, from 1 April 2011 until P259 is implemented, use a workaround solution to ensure ABSVD is assigned to the correct IEA BM Unit. A description of this workaround, and details of the costs/effort involved, is provided in National Grid's impact assessment of P259, which can be found in the P259 Impact Assessment response on the [P259 page](#) on the ELEXON website.

The Group agreed that P259 should be implemented on a Settlement Day basis, i.e. the P259 provisions will apply for all Settlement Days on and after the Implementation Date. Any Mandatory Frequency Response provided by BritNed for Settlement Days before P259 implementation (i.e. if P259 is implemented after BritNed has gone live and begun providing Mandatory Frequency Response) would be dealt with through the National Grid/BritNed workaround for all relevant Settlement Runs. Settlement Day implementation is the usual approach for implementation of BSC modifications.

Interaction with National Grid system development and CAP182

National Grid needs to make wider changes to its systems to support the use of Mandatory Frequency Response from Interconnectors. This work will not be completed till November 2011. National Grid can still call on BritNed to provide Mandatory Frequency Response before November 2011, but will need to use manual processes to do so. These manual processes, and the work to automate them in National Grid's systems, will be incurred regardless of whether P259 is approved (to comply with its Grid Code requirements) and therefore fall outside the BSC.

In order to utilise Mandatory Frequency Response from Interconnectors, National Grid also needs CUSC change CAP182 to be approved. CAP182 and P259 are progressing to roughly equivalent timescales. National Grid's required system development means that it would not be able to provide Interconnector data to the BMRA before November 2011. However, these wider considerations do not mean that it is necessary to delay the implementation of P259, because:

- The Settlement aspect of P259 is 'enabling' in the sense that it changes BSC Systems to correctly allocate ABSVD to IEA's whenever National Grid starts providing this in practice. It therefore does not matter if P259 is implemented ahead of CAP182 (the P259 and CAP182 solutions have no direct interaction); and
- The BMRS aspect of P259 is also 'enabling' because it allows National Grid to provide pseudo BM Unit data for Interconnectors whenever National Grid is in a position to do so, regardless of what this data is and if it changes over time. P259 may therefore be implemented in advance of National Grid completing its own systems work to provide data to the BMRA. Once the constitution of the data is agreed (under the Grid Code/ CUSC, i.e. outside the BSC) and National Grid is ready to provide it, the BMRA will publish the data and an explanation of it.

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 12 of 22

© ELEXON Limited 2010

Question 2

Do you agree with the Panel's suggested Implementation Date?

Attachment A, Detailed Assessment of P259, contains:

- The Group's initial discussions and views against the Applicable BSC Objectives;
- A summary of P259 consultation responses and the Group's consideration of these responses;
- Details of the Group's discussion of the potential Alternative and reasons for not progressing it; and
- Further details of the Groups views on the Proposed.

Final views against the Applicable BSC Objectives

The Group unanimously agreed that the P259 Proposed Modification better facilitates the achievement of the Applicable BSC Objectives compared with the current Code baseline. The Group's views on the benefits of P259 against each of the Objectives are presented in the table below. Note that not all Group members supported all arguments put forward.

Final assessment of benefits of P259 Proposed against the Applicable BSC Objectives	
Description of Objective	Identified benefit
a) Efficient discharge of the obligations of the Transmission Licence.	<p>Avoids disadvantaging Interconnectors that provide Mandatory Frequency Response compared with generators that provide this same service. Generators can be certain that ABSVD allocation ensures they will not incur imbalance volumes due to correct delivery of an instructed Mandatory Frequency Response; exposing Interconnectors (that are obligated to provide Mandatory Frequency Response if instructed) to the risk of spurious imbalance due to incorrect ABSVD allocation could be considered discriminatory and therefore in conflict with the Transmission Company's licence requirements.</p> <p>The reporting aspect of P259 would allow the Transmission Company to report, over the BMRS, data for Interconnectors that is equivalent to data already published for generators providing Mandatory Frequency Response. This would remove a source of discrimination between Interconnectors and other Mandatory Frequency Response providers.</p> <p>Enables more efficient discharge by the Transmission Company of its licence requirements by removing the need for workaround arrangements.</p>
b) Efficient, economic and co-ordinated operation of the national electricity transmission system.	<p>Enables the Transmission Company, as System Operator, to effectively utilise Interconnector Mandatory Frequency Response where it is the most economic option to manage System Frequency, promoting efficient and effective operation of the Transmission System.</p> <p>Without P259, Interconnector provision of Frequency Response would be less efficient and/or the Transmission Company, as System</p>

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 13 of 22

© ELEXON Limited 2010

	<p>Operator, would incur a workaround cost for instructing an Interconnector to provide Mandatory Frequency Response; this could impact the SO's decision to instruct an Interconnector to provide Frequency Response where it would otherwise have been the most economic option.</p> <p>Enables more efficient operation by the Transmission Company by removing the need for workaround arrangements.</p>
c) Promoting effective competition in the generation and supply of electricity and in the sale and purchase of electricity.	<p>Promotes competition in Mandatory Frequency Response provision.⁷ Any Party required to provide Mandatory Frequency Response if instructed must do so if instructed, but the Transmission Company can choose who to instruct and the Parties can decide how to price their Mandatory Frequency Response service. P259 may therefore be considered to promote competition in Mandatory Frequency Response provision by putting Interconnectors on a comparable footing with other Mandatory Frequency Response providers, by:</p> <ul style="list-style-type: none"> • Giving Interconnectors the same certainty as generators that they will not incur undue Imbalance Charges; • Publishing Interconnector data that equivalent to that already published for generators, which will help both Interconnectors and other providers to better understand their relative position (e.g. the likelihood that they will be called on to provide Mandatory Frequency Response).
d) Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.	<p>Removes potential inconsistency between the Grid Code (which requires new Interconnectors to be able to provide Mandatory Frequency Response) and the Code (which is at best silent on the arrangements for the resultant ABSVD).</p> <p>Clarifying BSC arrangements around Mandatory Frequency Response provision by Interconnectors reduces the risk of confusion and error in administration of the ABSVD arrangements.</p> <p>Enables more efficient Settlement of energy volumes associated with the provision of Mandatory Frequency Response by Interconnectors by introducing a process to correctly allocate Interconnector ABSVD, thereby ensuring:</p> <ul style="list-style-type: none"> • Interconnectors do not incur spurious imbalance volumes; and • The Transmission Company and Interconnectors do not need to monitor ABSVD allocation and effect reallocation where needed. <p>Enables correct allocation of any Interconnector ABSVD, i.e. for Frequency Response that is not mandatory or resulting from other Balancing Services.</p>

⁷ Some Group members believed these arguments relate to efficient Transmission System operation, and they would therefore fit better under Objective (b), but most members believed they should sit under (c) since they relate to competition.

Panel's consideration of Assessment Report

The Panel considered the P259 Assessment Report, noting the views of the Modification Group and respondents to the P259 Assessment Procedure Consultation, and the benefits identified by the Modification Group against the Applicable BSC Objectives.

The Distribution System Operator (DSO) Representative noted that the P259 contains an error that could be misleading. The P259 Modification Proposal states that 'The Grid Code requires Interconnectors commissioned after 1 April 2005 to be capable of providing Frequency Response.' However, the Grid Code Mandatory Frequency Response capability requirement actually applies only to DC Converters. This is an important distinction, because while Interconnectors like BritNed and the IFA are DC Converters (and BritNed is post-1 April 2005 and as such will be subject to the Mandatory Frequency Response requirement in the Grid Code) the correct Grid Code wording excludes the only current Distribution Interconnector (Isle of Man) on two counts:

- It was built before 1 April 2005; and
- It does not have a DC Converter (it is an AC connection).

The DSO Representative was concerned that the Modification Proposal could erroneously indicate that all Interconnectors, not just those that are DC Converters under the Grid Code, are required to be capable of providing Mandatory Frequency Response. The Panel noted that Distribution Interconnectors are not impacted by P259.

Note that, under the current Code baseline, a Distribution Interconnector is treated the same as a Transmission Interconnector unless the BSC Panel has issued a derogation (in accordance with section K5.2 of the BSC) allowing that Interconnector to be treated as a single BM Unit. The Panel has issued a derogation for the Isle of Man Interconnector, which is therefore not treated as an Interconnector (it does not have Interconnector BM Units or an IEA) and would be completely unaffected by P259.

Any Distribution Interconnector with such a derogation would be similarly unaffected by P259. However, P259 would apply to any Distribution Interconnector without a derogation from the Panel. This would mean the SAA would be capable of accurately allocating any ABSVD relating to the Interconnector to the correct IEA BM Unit. But a Distribution Interconnector would not be subject to the Mandatory Frequency Response requirement in the Grid Code unless it satisfied all the applicable criteria; if it has no DC Converter it would be outside the scope of the requirement.

The Panel noted that though arguments relating to the promotion of efficiency, accuracy and equitable treatment of Mandatory Frequency Response have been put forward in support of P259, the quantified costs and savings related to P259 are:

- If P259 is approved, the one-off implementation cost of £83,300; and
- The saving of approximately £14,000 to £50,000 per year for the annual cost of the workaround National Grid will operate if BritNed is instructed to provide Mandatory Frequency Response without the P259 solution in place.

Since these are the only quantified costs and savings associated with P259, and taking into account that the Interconnector Mandatory Frequency Response requirement may be removed by implementation of the Third Package, the Panel considered that it would be useful to clearly illustrate when National Grid will be in a position to instruct Mandatory Frequency Response from BritNed. This will need to take into account the commencement

of operation by BritNed and the interaction with National Grid's system development outside the BSC.

The Panel noted that P259 must be assessed against the current Code baseline and the Applicable BSC Objectives. However, the Panel noted that there were a number of wider considerations and potential developments which they believed would impact the benefit that would be derived from implementation of P259. The Panel believed that the Authority should take these factors into account when making a decision on P259.

The Panel considered that, given the Interconnector Mandatory Frequency Response requirement will only become practically applicable with the commencement of operation by BritNed, and may well be removed by implementation of the Third Package, it may have been more efficient for a derogation to have been sought against the requirement (i.e. by the Transmission Company, outside the BSC). If granted, such a derogation would have avoided any need for National Grid's substantial wider system development work and for P259.

The Panel questioned whether sufficient consideration had been given to the pursuit of a derogation before initiating the significant work required to meet the Grid Code requirement, but acknowledged that in the absence of such a derogation P259 had to be considered with respect to the current Code baseline and the Grid Code's Mandatory Frequency Response provisions.

The Panel believed that the Authority should take into account the progress and likely outcome of the implementation of the EU Third Package when making a decision on P259, since their recent consultation on this topic indicates that a probable outcome would be the classification of Interconnectors as TSOs. This would mean that no Interconnector would be obligated to be capable of Mandatory Frequency Response provision. A Panel member commented that though there may be benefits of P259 under the Code, wider considerations may impinge so greatly on these that they affect the Authority's decision, given its wider statutory remit.

The Panel noted that the requirement to be capable of providing Mandatory Frequency Response applied only to Interconnectors acting as an Importer of energy. The Transmission Company Representative noted that they expect BritNed would be an effective provider of Mandatory Frequency Response, and therefore anticipate that they would utilise it for Mandatory Frequency Response if able to do so.

The Panel agreed that the P259 solution is an effective technical solution to the issues identified by 259. They were therefore comfortable that if, having taken into account any relevant wider considerations, such as those they had identified, the Authority decided to approve P259 for implementation, it would technically deliver the effective and efficient allocation of ABSVD for Interconnectors that provide Mandatory Frequency Response.

The Panel was split in its initial view on whether P259 should be approved.

Some Panel members supported the benefits of P259 identified by the Modification Group and therefore supported P259, with the caveat that the Authority should taken into account wider considerations and any relevant developments when making a decision on P259. Other members shared this view, noting also that they believed that the main benefit of P259 would be due to increased efficiency, against Objective (b).

Some Panel members did not support P259 as they believed that use of National Grid's workaround solution for Interconnector ABSVD allocation was a more economic and efficient option than the P259 solution, particularly since in their view there is a significant risk that P259 will be rendered redundant relatively soon. They did not believe that any material discrimination would be caused by using the ABSVD allocation workaround

solution or by not reporting equivalent Interconnector information on the BMRS. These Panel members believed P259 would have a negative effect with respect to Objective (d).

The Panel noted that even if P259 was implemented and later became unnecessary due to new developments, it would not be necessary to 'back out' the change. The SAA functionality would just remain in place, unused.

The Transmission Company Representative supported the view that the P259 solution is technically the best solution and that under the current baseline P259 has benefits, but there are wider considerations that the Authority will be better placed to take into account.

Quantifiable P259 costs and benefits

Costs

Implementation of P259 would incur a one-off cost of £83,300, comprised of:

- £73,700 due to central BSC Systems impact, almost all due to the ABSVD/Settlement aspect of the P259 solution; and
- £9,600 for ELEXON implementation activities.

ELEXON's project management costs may vary depending on when P259 is implemented and whether other changes are implemented concurrently (e.g. P260, if approved).

Implementation of P259 has no cost for National Grid, BritNed or any other Party.

Savings

Aside from the mooted benefits relating to removal of discrimination, efficient operation of the Transmission System, Implementation of P259 would deliver a saving of £14,000 to £50,000 per year⁸ by avoiding the need for National Grid to operate a workaround to correctly allocate ABSVD.

The workaround would only be required when National Grid is able to instruct Interconnector Mandatory Frequency response, that is:

- From the time that both an Interconnector that is subject to the Mandatory Frequency Response requirement is operational (i.e. BritNed) and National Grid has completed all necessary systems development work (see below); and
- Until such a time as no Interconnector is subject to the Mandatory Frequency Response requirement, e.g. as a result of being classified as a TSO under the implementation of the Third Package.

National Grid costs unrelated to P259

In order to enable it to calculate ABSVD for Mandatory Frequency Response from Interconnectors, National Grid will need to complete system development with an estimated cost of £380,000. This work is due to be completed by November 2011.

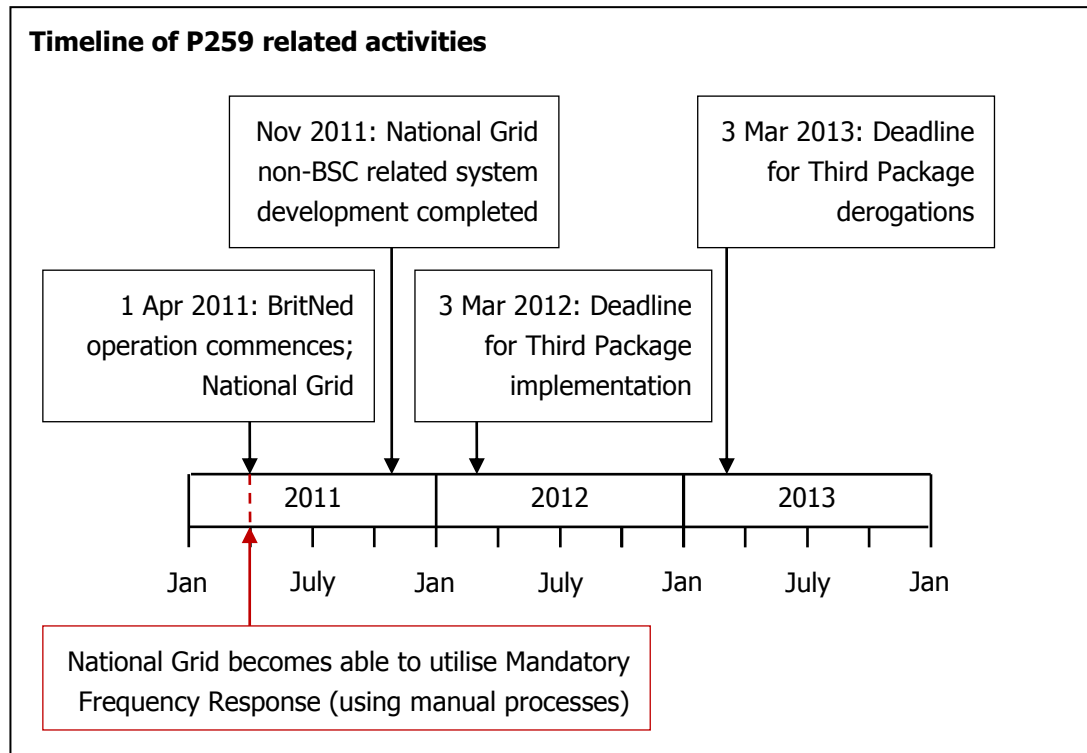
This development work is non-BSC and not related to P259 implementation. National Grid will need to complete this development work whether or not P259 is approved and implemented.

National Grid can still call on Mandatory Frequency Response from BritNed before November 2011, but will need to use manual processes to do so. These manual processes will be required regardless of the outcome of P259, and fall outside the BSC.

For National Grid to utilise Interconnector Mandatory Frequency Response, CUSC change CAP182 needs to be approved. It is currently proposed (in the CAP182 Working Group

⁸ Per Interconnector and depending on how often Mandatory Frequency Response is instructed.

Consultation) that CAP182 will be presented to the Amendments Panel in September 2010 and implemented 10 working days after an Authority decision.



Example: Interconnector Imbalance and allocation of ABSVD to the IEA Consumption BM Unit

The requirement to provide Mandatory Frequency Response can only apply to an Interconnector that is acting as an Exporter of energy to the system (i.e. producing energy by importing it). Even a post-1 April 2005 Interconnector, like BritNed, which falls under the Grid Code requirement to be capable of Mandatory Frequency Response cannot be required to provide Mandatory Frequency Response when it is acting as an Importer (i.e. transferring energy from the system).

However, the IEA BM Unit and account which is allocated the Interconnector's Imbalance Volume for a Settlement Period is determined by the direction of the error (positive or negative), and not by whether the Interconnector acted as an overall Exporter to or Importer from the system in that Settlement Period. The SAA allocates the IEA's volume to the IEA Production BM Unit if it is positive and to the IEA Consumption BM Unit if it is negative.

The IEA BM Unit error volume can therefore be negative, and as such would be assigned to the Consumption IEA BM Unit, in a Settlement Period in which the Interconnector acts as an Exporter (and is thus subject to the Mandatory Frequency Response requirement). The following example demonstrates this.

173/XX

P259
Draft Final Modification
Report

17 August 2010

Version 0.4

Page 18 of 22

© ELEXON Limited 2010

The IEA BM Unit Metered Volume (i.e. the error volume) of an Interconnector with a sum of Interconnector User volumes of 450MWh and an overall Metered Volume of 425MWh would be:

IEA BM Unit Metered Volume: -25MWh	=	Interconnector Metered Volume: 425MWh	—	Σ Interconnector User BM Unit volume: 450MWh
---	---	--	---	---

The Interconnector is an overall Exporter of energy but the IEA BM Unit Metered Volume is negative (i.e. -25MWh) and is therefore allocated to the IEA Consumption BM Unit. The Interconnector operator is liable for the Imbalance charges on the -25MWh error volume.

If the Interconnector, in the same situation, is instructed to provide Mandatory Frequency Response amounting to a 10MWh reduction in its delivered volume, and does this successfully, the Interconnector's Metered Volume and error volume will be affected. The sum of the Interconnector User volumes remains 450MWh but the overall Metered Volume is now 415MWh. Unless adjusted, the IEA BM Unit Metered Volume would be:

IEA BM Unit Metered Volume: -35MWh	=	Interconnector Metered Volume: 415MWh	—	Σ Interconnector User BM Unit volume: 450MWh
---	---	--	---	---

As it would for a generator which it had instructed to provide Mandatory Frequency Response, National Grid will seek to apply ABSVD to offset the effect of Frequency Response delivery on the Interconnector's Imbalance Charges. The following sections set out how this would be done under P259 and under the current Code baseline.

Under the baseline

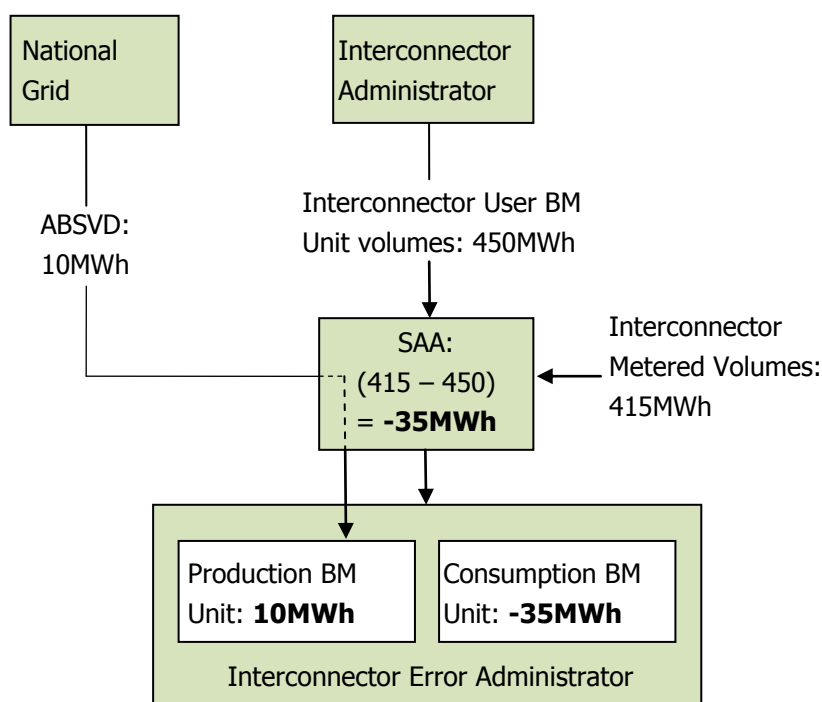
Under the current Code baseline, National Grid's default approach would be to allocate ABSVD to the IEA Production BM Unit. Therefore:

- The IEA Consumption BM Unit has an Imbalance of -35MWh (the Interconnector's error volume based on User volumes and its Metered Volume); and
- The IEA Production BM Unit has an Imbalance of 10MWh (due to the application of ABSVD).

This is illustrated in the diagram below. The Interconnector operator is liable for Imbalance Charges on both these volumes. Therefore the incorrect allocation of ABSVD has erroneously increased the Interconnector's exposure to Imbalance Charges. In practice this could be rectified by National Grid manually reallocating the ABSVD to correct the error, but such a workaround would have an associated cost for every instance of Mandatory Frequency Response provision by an Interconnector (as set out above).

The error arising in this particular example could be addressed by National Grid adopting a policy of assigning ABSVD to the IEA Consumption BM Unit when the Frequency Response volume is negative. However, this policy would cause incorrect Imbalance Charges in other cases (e.g. when the Interconnector error volume is positive but the Frequency Response volume is negative). When National Grid allocates ABSVD to an IEA BM Unit, it will not generally be possible for it to know whether or not that is the IEA BM Unit to which the SAA will subsequently allocate the Interconnector error volume. It is therefore not possible (under the current baseline) for National Grid to initially assign ABSVD in a way that avoids exposing the IEA to unwarranted Imbalance Charges.

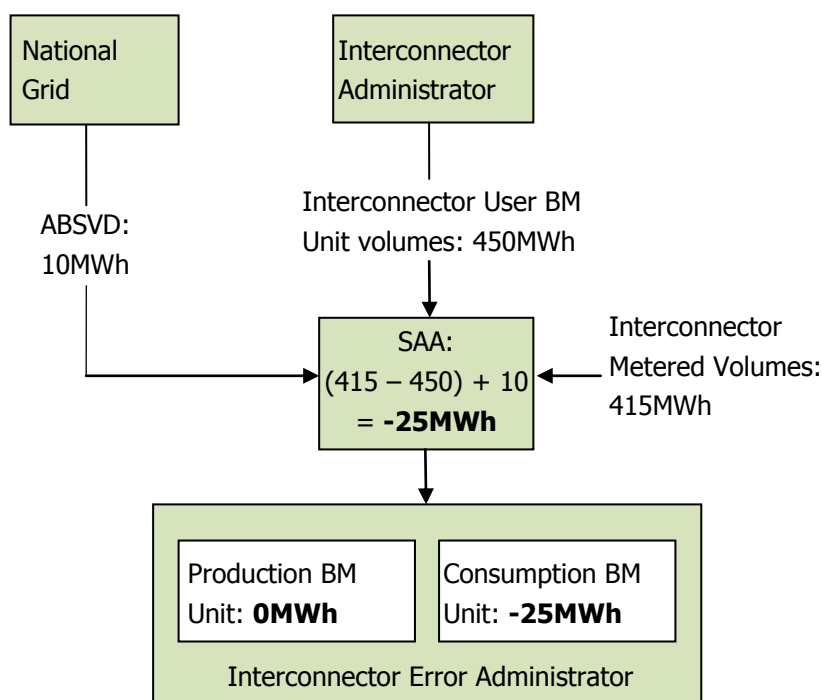
Under the baseline: SAA allocates ABSVD as directed by National Grid



Under P259

The P259 solution would correctly adjust the IEA BM Unit Metered Volume; the SAA would sum the error volume with the ABSVD adjustment, and then allocate the net error to the appropriate IEA BM Unit. This would result in a volume of -25MWh (i.e. -35 + 10) being allocated to the IEA Consumption BM Unit. This means the successfully delivered Mandatory Frequency Response has been removed from BSC Settlement (and will be settled under CUSC/Grid Code arrangements). This is illustrated in the diagram below.

Under P259: SAA allocates ABSVD to the correct IEA BM Unit



Panel's initial views

The Panel agreed by majority an initial view that P259 Proposed would better facilitate the Applicable BSC Objectives overall compared with the current baseline.

Some Panel members supported the views of the P259 Modification Group, others believed that the main benefit of P259 was against Objective (b) due to increased efficiency.

Based on these views and the considerations detailed above the majority of the Panel believed that P259 Proposed would better facilitate the Applicable BSC Objectives overall and that (compared with the existing baseline) P259 Proposed:

- Would better facilitate Applicable BSC Objective (a);
- Would better facilitate Applicable BSC Objective (b);
- Would better facilitate Applicable BSC Objective (c); and
- Would better facilitate Applicable BSC Objective (d).

A minority of the Panel believed that P259 Proposed would not better facilitate the Applicable BSC Objectives overall. These Panel members considered National Grid's workaround solution for Interconnector ABSVD allocation to be a more economic and efficient option (particularly since they believed there is a significant risk that P259 will become redundant) and did not believe that use of the workaround solution, and not reporting equivalent Interconnector information, would cause material discrimination between. They believed P259 had no benefits and would therefore have a negative impact against Objective (d) due to its implementation cost.

A minority of the Panel therefore believed that (compared with the existing baseline) P259 Proposed:

- Would be neutral with respect to Applicable BSC Objective (a);
- Would be neutral with respect to Applicable BSC Objective (b);
- Would be neutral with respect to Applicable BSC Objective (c); and
- Would not better facilitate Applicable BSC Objective (d).

Question 1

Do you agree with the Panel's view that Proposed Modification P259 should be approved?

Question 3

Do you agree that the legal text delivers the intention of P259?

8 Initial Recommendations

Having considered the P259 Assessment Report, the BSC Panel initially recommends:

- That Proposed Modification P259 should be made;
- An Implementation Date for Proposed Modification P259 of:
 - 31 March 2011 if an Authority decision is received on or before 21 October 2010; or
 - The next available BSC Release occurring not less than 26 weeks after approval if the Authority decision is received after 21 October 2010; and
- The proposed text for modifying the Code, as set out in the Modification Report.

9 Further Information

All consultation and impact assessment responses are available on the [P259 page](#) of the ELEXON website. More information is also available in:

Attachment A: Detailed Assessment

This includes information on:

- Modification Group membership;
- Modification Group discussions;
- Process followed for P259; and
- Glossary.

Attachment B: Legal Text Proposed

A complete version of the Report Phase consultation received, the P259 Assessment Report, and all other related document are available on the P259 page of the ELEXON website.