P316 'Introduction of a single marginal cash-out price'

This Modification seeks to introduce a single marginal imbalance price (cash-out price), in place of the dual imbalance prices currently in use, and to reduce both the Price Average Reference and Replacement Price Average Reference values to 1MWh.

The Proposer believes that P316 will increase the certainty of a single marginal price being implemented in a timely manner and ahead of winter 2015/16.

This Assessment Procedure Consultation for P316 closes:

5pm on **Wednesday 14 January 2015**

The Workgroup may not be able to consider late responses.

Please note that P305 'Electricity Balancing Significant Code Review Developments' is related to P316 and is being consulted upon at the same time.

The P316 Workgroup has not made an initial recommendation on P316

This Modification is expected to impact:

- BSC Trading Parties
- The Balancing Mechanism Reporting Agent (BMRA)
- The Settlement Administration Agent (SAA)
- ELEXON

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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About This Document

The purpose of this P316 Assessment Procedure Consultation is to invite BSC Parties and other interested parties to provide their views on the merits of P316. The P316 Workgroup will then discuss the consultation responses, before making a recommendation to the BSC Panel at its meeting on 12 February 2015 on whether or not to approve P316.

There are two parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, benefits, drawbacks and proposed implementation approach. It also summarises the Workgroup's key views on the areas set by the Panel in its Terms of Reference, and contains details of the Workgroup's membership and full Terms of Reference.
- Attachment A contains the specific questions on which the Workgroup seeks your views. Please use this form to provide your response to these questions, and to record any further views or comments you wish the Workgroup to consider.

Any questions?

Contact:
Talia Addy

talia.addy@elexon.co.uk

020 7380 4043

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1 Summary

Why Change?

National Grid raised P305 'Electricity Balancing Significant Code Review Developments' to progress the conclusions of Ofgem's Electricity Balancing Significant Code Review (EBSCR).

RWE Supply and Trading GmbH raised P316 'Introduction of a single marginal cash-out price' on 4 November 2014. This Modification seeks to implement a single marginal imbalance price, two key elements of the balancing arrangements reform identified by Ofgem in its EBSCR. The Proposer notes that P316 interacts with P305 and believes that P316 will increase the certainty of a single marginal price being implemented in a timely manner and ahead of winter 2015/16.

Solution

This Modification seeks to:

- introduce a single marginal imbalance price ; and
- reduce the Price Average Reference (PAR) and Replacement PAR (RPAR) values to 1MWh.

The Workgroup is considering various potential alternative solutions with a different PAR value, and possibly using a phased approach to the reduction of PAR.

All the potential alternatives being considered would introduce a single marginal imbalance price and reduce RPAR to 1MWh.

The Proposer and Workgroup note that related Modification P305 should be considered in determining the Proposed Modification and any Alternative Modification.

Impacts & Costs

The total central implementation costs for P316 are approximately **£125k** to make the necessary changes to the BSC central systems. Changes are needed to the Settlement Administration Agent (SAA) and the Balancing Mechanism Reporting Agent (BMRA) systems to move to a single price.

We do not anticipant any direct impacts on BSC Parties or Party Agents.

Implementation

The Workgroup recommend an Implementation Date for P316 of **5 November 2015** as part of the November 2015 BSC Systems Release.

Recommendation

The Workgroup has not made an initial recommendation for P316.

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What are imbalance prices?

Imbalance prices, which are known as 'cash-out' prices, are a key part of the wholesale electricity trading arrangements in Great Britain.

The wholesale electricity market is set up such that BSC Parties enter into bilateral contracts with each other in order for generators to be able to sell the energy they produce to Suppliers to supply their customers. However, contracts between participants are not always exactly delivered in real time causing an imbalance between energy generation and demand on the Transmission System. This can cause problems as electricity cannot easily be stored economically in large quantities and generation must always match consumer demand in real time if a stable system is to be maintained.

For any given Settlement Period (each half hour), Parties may trade with each other up to Gate Closure, which occurs one hour prior to the start of that Settlement Period. Parties aim to balance their position for a given Settlement Period by Gate Closure to ensure that the amount of energy they generate or buy matches the amount of energy they consume or sell. However, there are circumstances where this does not happen, for example, if a generator experiences an unexpected outage that does not allow them to generate their contracted amount of energy, or if a Supplier over or under estimates the amount of energy their customers actually use. This leaves the Party in an imbalanced position for that Settlement Period.

To balance energy on the Transmission System the Transmission Company, acting as System Operator (SO), assesses the amount of generation and the amount of demand expected for each Settlement Period. If required, the SO will take balancing actions[1] to balance the system so that the total amount generated matches the total amount consumed. The SO does this by issuing Bids and Offers via the Balancing Mechanism or Balancing Service Adjustment Actions (BSAA)[2] to participants (usually generators) to increase or decrease the amount of energy they need to produce (or consume) to ensure the system is balanced. The SO will do this prior to and throughout the Settlement Period to ensure the system is balanced at all times.

Following the end of a Settlement Period, ELEXON (using the BSC Systems) will compare the amount of energy each Party contracted with its metered volumes for the Settlement Period, accounting for any accepted Bids and Offers and other applicable balancing service volumes. Any surplus or shortfall that the Party has is called the imbalance volume and is paid for using the relevant imbalance price:

- If the Party is **short** (it consumed more energy than it had bought or sold more energy than it had generated) then it pays for its shortfall at the **System Buy Price** (SBP).
- If the Party is **long** (it generated more energy than it had sold or bought more energy than it had consumed) then it is paid for its surplus at the **System Sell Price** (SSP).

Imbalance Pricing Guidance Note

More detail on imbalance prices and how they are calculated can be found in our Imbalance Pricing Guidance Note.

[1] A balancing action is an instruction to a Party, in accordance with agreed rules, to either increase or decrease generation, or increase or decrease demand. Parties must also submit details of their contracts to the BSC Systems.

[2] Balancing Service Adjustment Actions (BSAA) are the technical services that the System Operator purchases outside the Balancing Mechanism. This is described in Balancing Services Adjustment Data (BSAD) Methodology Statement.

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There are two methods for calculating the imbalance price:

- The **Main Price** is based on the costs of energy balancing actions incurred to the Transmission Company for that Settlement Period.
- The **Reverse Price** is based on the short term market price of wholesale electricity traded on the power exchanges for that Settlement Period.

The method (Main Price or Reverse Price) which is to be applied to an imbalance price (SBP or SSP) for each Settlement Period is determined by whether the system as a whole was long (Net Imbalance Volume (NIV) is zero or negative) or short (NIV is positive) for that Settlement Period:

- If the system is long, the SSP will be the Main Price and the SBP will be the Reverse Price.
- If the system is short, the SBP will be the Main Price and the SSP will be the Reverse Price.

As a result, the Main Price is applied to any Party whose imbalance was in the same direction to, and is considered to have contributed to the overall system imbalance. These Parties will therefore face the costs of the balancing actions accepted by the SO to resolve energy imbalance on the system. Conversely, the Reverse Price is applied to any Party whose imbalance was in the opposite direction to the net imbalance, and is considered to have helped to reduce the overall system imbalance. Therefore, these Parties might face the costs they would have incurred had they traded out their imbalance position on the power exchanges near Gate Closure.

What is the PAR volume?

The PAR volume is used in the Main Price calculation. It is a volume of the most expensive actions remaining at the end of the Main Price calculation once all 'tagging and flagging' processes have been completed. The volume weighted average of these actions is calculated and used to set the Main Price. The PAR value is currently 500MWh, meaning the most expensive 500MWh of these actions is used to calculate the Main Price.

Originally under the current arrangements, imbalance prices were calculated as an average of all actions taken by the SO to balance the system. This was subsequently changed to the most expensive 500MWh of actions under P205 'Increase in PAR level from 100MWh to 500MWh' in November 2006. This level of 500MWh has since been maintained.

Further information on imbalance prices, PAR and RPAR can be found on the imbalance pricing page of our website.

Replacement Price Average Reference

The RPAR value is a set volume of the most expensive priced actions remaining at the end of the Main Price calculations, and is currently 100MWh. The volume-weighted average of these actions, known as the Replacement Price, is used to provide a price for any remaining unpriced actions prior to PAR Tagging.

What is the Electricity Balancing Significant Code Review?

In August 2012, Ofgem launched the Electricity Balancing Significant Code Review to address long-standing concerns on electricity balancing arrangements raised in its 2010 Project Discovery Report. In particular, Ofgem expressed concerns that imbalance prices

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were not providing cost reflective signals to incentivise efficient balancing behaviour by BSC parties.

Ofgem completed its review of the electricity balancing arrangements and published its Final Policy Decision on 15 May 2014. The final decision document lays out Ofgem's conclusions and builds on the extensive analysis and stakeholder engagement conducted during the EBSCR.

P304, P305 and P314

Following publication of its Final Policy Decision, Ofgem, as the Authority, directed National Grid, as the Transmission Company, to raise the relevant Modifications to put the package of reforms in place.

National Grid raised P305 'Electricity Balancing Significant Code Review Developments' to progress the package of changes that came out of the EBSCR, as follows:

- reduce the PAR value to 50MWh and the Replacement PAR (RPAR) value to 1MWh upon implementation, and reduce the PAR value further to 1MWh on 1 November 2018;
- introduce a single imbalance price;
- introduce pricing for Short Term Operating Reserve (STOR) actions; and
- introduce pricing for Demand Control actions and a process for correcting participants' imbalance volumes following such an event.

National Grid also raised P304 'Reduction in PAR from 500MWh to 250MWh' which proposed a reduction in the PAR value to 250MWh. However, this Modification has since been rejected by the Authority along with related Modification P314 'Reduction in PAR from 500MWh to 350MWh'.

What is the issue?

RWE Supply and Trading GmbH raised P316 'Introduction of a single marginal cash-out price' on 4 November 2014. P316 seeks to implement only the single marginal imbalance price elements of the balancing arrangements reform identified by Ofgem in its EBSCR. The Proposer notes that while the other elements of reform that P305 seeks to introduce (a reserve pricing function and the pricing of demand control measures into the imbalance price) are desirable, the potential solutions are complex which may preclude early implementation of P305 (at least in time for winter 2015/16). The Proposer believes that P316 will increase the certainty of a single marginal price being implemented in a timely manner and ahead of winter 2015/16.

Significant Code Review Modifications

BSC Section F 5.3 states that:

- The Authority may direct the Transmission Company to raise an SCR Modification Proposal; and
- that the Authority's SCR Conclusions (if any) or direction in respect of the SCR Modification Proposal **shall not** fetter the views of the relevant Workgroup, the voting rights of the Panel or the recommendation of the Modification Report in respect of such an SCR Modification Proposal.

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3 Solution

Proposed solution

P316 seeks to progress two of the four reforms outlined by the Authority in its EBSCR Final Policy decision and introduce a single marginal imbalance price by:

- reducing the PAR and RPAR values; and
- introducing a single imbalance price.

The full detail on each area of reform and the rationale behind them can be found in Ofgem's Final Policy Decision. Full details of the proposed solution requirements can be found in Appendix 1.

Introduction of a single imbalance price

This Modification proposes that a single imbalance price be applied in place of the dual imbalance prices currently in use. Both the SBP and SSP will be retained, but they will be set equal to each other, with that single price being calculated using the Main Price methodology.

The NIV (Net Imbalance Volume) will determine whether the main pricing method is based on the SBP or SSP calculations, as follows:

- if the NIV is negative, the single energy imbalance price will be determined according to the existing Main Pricing methodology for calculating the System Sell Price, with the SBP being set equal to the SSP;
- if the NIV is positive, the single energy imbalance price will be determined according to the existing Main Pricing methodology for calculating the System Buy Price, with the SSP being set equal to the SBP; or
- if NIV is equal to zero the default single price shall be the market reference price, calculated on the basis of the current methodology.

Reduction in the PAR and RPAR values

This Modification proposes a reduction in the PAR value from 500MWh to 1MWh to create an imbalance price which is reflective of the marginal cost of balancing energy for a given Settlement Period.

In order to align this Modification with the EBSCR, and to mitigate any risk due to the value of RPAR being greater than the value of PAR, this Modification also proposes a reduction in the RPAR value from 100MWh to 1MWh.

Proposed draft legal text changes

Due to the complexity of the changes to the BSC to deliver P316, the Workgroup has not prepared the draft changes for this Assessment Procedure Consultation. The Workgroup will develop these in parallel with this consultation, and these will be issued for industry comment as part of the Panel's Report Phase Consultation.

Changes to Code Subsidiary Documents (CSDs), Configurable Item and Core Industry Document may also be required to implement P316. A list of these documents can be

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found in Section 4. The changes to these documents will be prepared and consulted upon separately.

Are there any alternative solutions?

Potential alternative PAR values being considered by the Workgroup

The Workgroup discussed a number of different PAR values which members believed would be appropriate to implement alongside a single imbalance price. Along with the proposed move to a PAR value of 1MWh, the Workgroup wishes to seek industry views on the following PAR values:

- reduction in PAR to 50MWh upon implementation and then 1MWh in 2018;
- reduction in PAR to 250MWh upon implementation and then 100MWh after 12 months;
- reduction in PAR to 50MWh upon implementation; and
- reduction in PAR to 100MWh upon implementation.

In order to mitigate any risk due to the value of RPAR being greater than the value of PAR, the Workgroup proposes that in all cases there should be a reduction in the RPAR value to 1MWh.

Introduction of a single imbalance price

The P316 Workgroup agreed with the Proposer's view that a single imbalance price should be applied in place of the dual imbalance prices currently in use. Therefore, it is anticipated that any Alternative Modification will include the introduction of a single imbalance price, as per the proposed solution.

The Workgroup invites the views of industry participants to assist it in determining the composition of a potential P316 Alternative Modification.

Assessment Consultation Questions
Do you believe there are any other potential Alternative Modifications within the scope of P316 which would better facilitate the Applicable BSC Objectives? *Please provide your rationale.*
The Workgroup invites you to give your views using the response form in Attachment A

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4 Impacts & Costs

Estimated central implementation costs of P316

The total central implementation costs for P316 are approximately **£125k** to make the necessary changes to the BSC central systems. Changes are needed to the SAA and the BMRA systems to move to a single price.

Indicative industry costs of P316

We do not anticipant any direct impacts on BSC Parties or Party Agents. However, if industry participants have optionally elected to store or use the value of PAR or replicate any of the imbalance price calculations in their own systems there may be a cost associated with changing these.

Assessment Consultation Questions
Will P316 impact your organisation? *If 'Yes', please provide a description of the impact(s) and any activities which you will need to undertake between the Authority's approval of P316 and the P316 Implementation Date (including any necessary changes to your systems, documents and processes). Where applicable, please state any difference in impacts between the Workgroup's proposed solutions.*
Will your organisation incur any costs in implementing P316? *If 'Yes', please provide details of these costs, how they arise and whether they are one-off or on-going costs. Please also state whether it makes any difference to these costs whether P316 is implemented as part of or outside of a normal BSC Systems Release. Where applicable, please state any difference in costs between the Workgroup's proposed solutions.*
The Workgroup invites you to give your views using the response form in Attachment A.

P316 impacts

Impact on BSC Parties and Party Agents	
Party/Party Agent	Potential Impact
BSC Parties/Agents	We do not anticipate a direct impact on BSC Parties or Party Agents and P316 should not require any mandatory effort in implementing P316. All aspects of calculating imbalance prices are done centrally so participants' systems should only be impacted if they have elected to replicate any of these processes or related parameters within their systems, which is optional.

Impact on Transmission Company
We do not anticipate there to be any impact on the Transmission Company in implementing this Modification.

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Impact on BSCCo
ELEXON will be impacted through the implementation of the new arrangements and the corresponding document changes as well as ensuring that any business-as-usual processes are adapted accordingly.

Impact on BSC Systems and processes	
BSC System/Process	Impact
BMRA	Changes will be required to reflect the changes to the imbalance price calculations.
SAA	

Impact on Code	
Code Section	Potential Impact
Section T	Changes will be required to implement this Modification.
Section V	Changes may be required to implement this Modification.

Impact on Code Subsidiary Documents	
CSD	Impact
BMRA Service Description	Changes will be required to reflect changes to existing processes and/or the introduction of new processes for the relevant BSC Agents.
SAA Service Description	
BMRA User Requirement Specification	
SAA User Requirement Specification	

Impact on other Configurable Items	
Configurable Item	Impact
Market Index Definition Statement	Updates to this document may be required to reflect the revised use of Market Index Data under the BSC.

Impact on Core Industry Documents and other documents	
Document	Impact
BSAD Methodology	Changes may be required to these documents as a result of this Modification.
SMAF Methodology[3]	

[3] http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Codes-principles-methodologies/Methodologies/

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Other Impacts	
Item impacted	Impact
Imbalance Pricing Guidance Note	Changes will be required as a result of this Modification.
Electricity Trading Arrangements Beginners Guide	

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5 Implementation

Recommended Implementation Date

The Workgroup recommends an Implementation Date for P316 of:

- **5 November 2015** as part of the November 2015 BSC Systems Release.

The Proposer originally submitted P316 with a proposed Implementation Date of 1 September 2015, or another suitable date as agreed by the Workgroup that would allow P316 to be implemented ahead of winter 2015/16.

The Workgroup unanimously agreed that P316 should be implemented on 5 November 2015. This would allow the solution to be implemented in time for winter 2015/16 and would also align this Modification's implementation with that for P305 (which is also proposed for implementation on 5 November 2015).

ELEXON will be able to implement the necessary BSC central system changes for P316 in time for implementation on 5 November 2015, should the Modification be approved.

Assessment Consultation Question
Do you agree with the Workgroup's recommended Implementation Date? *Please provide your rationale.*
The Workgroup invites you to give your views using the response form in Attachment A.

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Interactions between P305 and P316

P316 was raised during the Assessment Procedure of P305, to which it closely relates. Due to the interactions between the Modifications it was deemed prudent to align their progression. Therefore, the Workgroup membership for both Modifications is substantially the same, with joint Workgroup meetings being held to efficiently progress both P316 and P305. Furthermore, much of the discussion had at the Workgroup meetings relates to both P316 and P305 and has such been reflected in this document.

The Workgroup noted the possibility that P316 could be implemented ahead of P305 to deliver the single marginal price parts of the EBSCR earlier than the RSP and Demand Control parts. However, if the approaches to the reduction in the PAR value did not align between the two Modifications then there would be a possibility that the PAR value approved under P305 would overwrite that approved under P316.

As the Proposed Modifications stand, should both be approved and should P316 be implemented earlier than P305, P316 would introduce a PAR value of 1MWh upon its implementation. P305 would then raise the value to 50MWh upon its implementation before returning the value to 1MWh in 2018.

P305 and P316 are two separate Modifications, and neither can be dependent or reliant on the other. However, the Workgroup has noted that co-ordination on this aspect of the solution should be considered to facilitate a possible phased implementation of the EBSCR conclusions.

What should the value of PAR be?

Ofgem's EBSCR proposed a reduction in the PAR value to 50MWh upon implementation with a further reduction to 1MWh in 2018, while P316 proposes proceeding directly to 1MWh upon implementation. The Workgroup considered the EBSCR conclusions and were supportive of a phased and cautious approach to lowering the PAR value. However, some members had concerns over the marginal values proposed by Ofgem and felt an even more cautious approach to reducing the PAR value should be considered.

Concerns around tagging and possible distortions

A concern was raised over the impacts that incorrect tagging of system actions by the Transmission Company could have on the imbalance price. The Transmission Company does retrospectively check all tagged actions to ensure that they were correctly tagged, but it does not check the actions it did not tag (i.e. to check whether they should in fact have been tagged). Some members felt this created the potential for an action that should have been tagged out to go on to set the imbalance price. However, other members felt that a process for allowing participants to challenge the Transmission Company's system action tagging should be introduced to mitigate the potential impacts.

The Workgroup considered that marginal values could amplify existing inefficiencies in the current calculation. They noted that the Transmission Company can sometimes accept a high-priced Offer in one Settlement Period to resolve an issue at that time, but because of the dynamics of the BM Unit called upon, that Offer may have to persist for several hours, impacting future Settlement Periods where a lower-priced Offer would otherwise have

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been accepted. They noted that without these potential distortions they would be in favour of moving to a value of 1MWh.

Staggered and phased PAR reduction approaches

Workgroup members felt that a staggered approach to lowering the PAR value would be beneficial, and that a less marginal value should be the first step. This would allow the impacts to be assessed before lowering the value further. A Workgroup member believed that the impacts of a lower PAR value are not linear, and are likely to get steeper as the PAR value gets closer to 1MWh. A jump from 500MWh to 250MWh, as proposed by P304, or possibly as low as 100MWh should have little overall impact. However, once the value goes below 100MWh the effects and impacts will begin to be more noticeable.

Some members agreed that a cautious approach should be taken, potentially with a value of 100MWh or 250MWh. It was noted that this would allow the market more time to adapt to the new arrangements. There were concerns that, with the rejection of P304 and P314, P316 would seek to dramatically reduce the value of PAR from the current 500MWh to 50MWh or 1MWh. Other members were in favour of moving to 50MWh, or even directly to a lower PAR value, and felt that setting too high a PAR value may undermine the intent of the EBSCR, and so may be rejected by the Authority.

ELEXON asked the Workgroup for their views on a hardwired staggered approach for a reduction in PAR, similar to that of P305. Some members were not confident in a hardwired staggered reduction in PAR. One member noted that it may be possible to do a phased reduction where the value would step down over a number of years and if at any point on that journey there are unintended consequences the progression could be halted. The Ofgem Representatives were cautious of such a staggered approach, feeling that this could create uncertainty in the industry as to whether a further reduction was to take place and thereby undermine the behaviour change the reform is intended to motivate. Other members queried why a phased approach is necessary, believing that if a lower value is seen as ultimately beneficial then the industry should move directly to it. It was noted that by placing all the steps for a phased approach in the BSC at the point P316 was implemented would mean those steps would take place unless and until a further Modification was raised and approved to change that.

PAR review process

It was considered whether a PAR review process should be introduced, to allow for regular reviews of the PAR value. However, members did not see the benefit of this, noting that if anyone wanted to propose a change to the PAR value then they could simply raise a Modification. All of the analysis that would be carried out under a review would be carried out under a Modification, and so there would be no benefit in introducing a new review process.

PAR value options

At this stage, the Workgroup is considering several potential PAR values that could be adopted. The Proposer has confirmed that they do not intend to change the approach originally put forward but agreed that alternative PAR values need to be consulted upon. The values being considered by the Workgroup are as follows:

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- 50MWh upon implementation then 1MWh from 1 November 2018 (P305 proposed solution);
- 250MWh upon implementation then 100MWh 12 months later;
- 100MWh upon implementation with no further change under P316;
- 50MWh upon implementation with no further change under P316; and
- 1MWh upon implementation with no further change under P316 (P316 proposed solution).

The Workgroup believes it is unable to determine which would be the most appropriate option to progress until it has had a chance to fully consider ELEXON's historical analysis and industry consultation responses. However, there is no clear consensus among members at this time as to which approach they initially prefer.

Assessment Consultation Question
Please provide your views on what PAR value(s) should be proposed and whether you believe a phased approach should be adopted. *Please provide your preferred PAR value option of those under consideration and your rationale for this, and, if you have an alternative approach, please specify your proposed PAR value(s), your proposed timescales for phasing (if applicable) and your rationale for your proposal.*
The Workgroup invites you to give your views using the response form in Attachment A

One member asked how many Bids or Offers tend to form the price under different PAR values. The Ofgem Representatives noted this had been looked at under the EBSCR[4], and that for a PAR value of 1MWh an average of three to four actions would set the price, rising to six for a PAR value of 50MWh. This is compared to around 15 under the current PAR value of 500MWh. Even under a 1MWh PAR value, it is possible that actions from several different Parties could contribute to setting the imbalance price.

Introduction of a single imbalance price

The P316 Workgroup agreed with the Proposer's view that a single imbalance price should be applied in place of the dual imbalance prices currently in use, as per the proposed solution details in Section 3.

What impacts could P316 have on credit?

Members were concerned on the impacts that P316 may have under the credit arrangements. It was noted that several other Modifications have been or are being progressed, notably P306 'Expanding the definition of a 'Letter of Credit' to include regulated insurance companies', P307 'Amendments to Credit Default arrangements' and P308 'Alternative security product for securing credit under the BSC', which would amend the credit arrangements in different ways. However, Modifications cannot be contingent on each other, and so P316 cannot be made contingent on the outcomes of these other changes, but it was felt that P316 may have an indirect impact on credit. Members

[4] https://www.ofgem.gov.uk/ofgem-publications/82295/ebscr-draft-policy-decision-impact-assessment.pdf

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therefore felt that the implications of P316 on participants' Credit Cover needed to be highlighted.

Assessment Consultation Question
What impacts do you believe P316 will have on the BSC credit arrangements? *Please provide your response and rationale.*
The Workgroup invites you to give your views using the response form in Attachment A

Consideration of the P305 historical analysis

The P305 Workgroup requested a recalculation of historical imbalance prices and that any analysis should recreate an output similar to the analysis conducted for P304 and P314, spanning a time period of 15 February 2010 to 17 May 2014.

The P305 analysis looked at different elements of the proposed solution including PAR values of 350MWh, 250MWh, 100MWh, 50MWh and 1MWh. ELEXON recalculated imbalance charges, RCRC and the net impact across this period, comparing the results to the 'live' data. ELEXON noted that the analysis would not take account of any behaviour change as a consequence of P305. The Workgroup concluded that analysis conducted under P305 would be sufficient to assess P316.

More information on this analysis can be found in the P305 Assessment Procedure Consultation, with the underlying data available on the ELEXON Portal. However, the Workgroup has been unable to fully consider the results of this analysis prior to this consultation being issued.

Consideration of Ofgem's SCR analysis

The Workgroup considered the analysis that had been undertaken by Ofgem under the SCR.

A Workgroup member noted that while Ofgem had done a significant amount of analysis under the EBSCR, the Workgroup had been charged with doing further analysis as it saw fit to assess the impacts of P305. This could include endorsing Ofgem's analysis, but did not preclude the Workgroup from doing its own. The Ofgem Representatives did not disagree with this, but emphasised that any analysis undertaken should be done on a pragmatic basis.

Members noted that the EBSCR analysis only assessed the EBSCR conclusions as a whole package, and did not account for individual elements. It would therefore be difficult to draw conclusions on the impacts of just the single marginal price elements from this analysis for use in assessing P316.

Some Workgroup members were keen to undertake historical analysis of recent years with the P316 arrangements in place. Other members were unsure what this would show, noting that participants' behaviour would have been different in a single price regime and so whatever such analysis produced would be inconclusive. The Ofgem Representatives were also unsure of the merits of performing historical analysis when the intent of the EBSCR is to drive behavioural changes. However, participants in favour suggested that this would show the worst-case scenario should participants not change their behaviour in response to the proposed changes. It would also allow distributional effects to be

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assessed, and could be used to assess the most suitable PAR value(s) to adopt. It was also felt that the data should be made available to all participants, so that they can assess the impacts on their own organisations for themselves. There was also a view that should ELEXON's analysis support Ofgem's conclusions then this may provide more comfort to participants, while if it does not then this would suggest areas that need to be considered further.

ELEXON has undertaken a comprehensive piece of analysis for the P305 Workgroup, and a summary of the results can be found in the P305 Assessment Procedure Consultation. As part of this analysis, ELEXON has broken the data down by solution area, and therefore this analysis also shows the impacts of only having the single marginal price elements of the P305 solution in place. The Workgroup was unable to fully consider this analysis prior to this consultation being issued, and so has been unable to draw any conclusions from it.

In addition, the raw Party-level data from this analysis is available on the ELEXON Portal for participants to download and consider.

Full details of the analysis completed under P305 can be found in Attachment A of the P305 Assessment Consultation.

Additional areas for consideration

The Workgroup noted that it would be very difficult to assess the potential impacts on intermittent generators, as such impacts are quite difficult to assess through analysis. The Workgroup therefore wishes to obtain information on this area from respondents to the Assessment Procedure Consultation on this area.

It also seeks respondents' views on the interaction that P305 may have with the Capacity Market (CM) or with Contracts for Difference (CfD).

Assessment Consultation Question
Do you believe that commercial terms offered to intermittent generators, under power purchase agreements, will be impacted by any reassessment of balancing risks which may arise following P316? *Please provide your rationale and, if 'Yes', please quantify impacts where possible. Please also identify any other impacts you believe P316 will have on intermittent generators.*
Do you believe that there will be any impact or interaction between P316 and the Capacity Market & Contract for Difference arrangements? *Please provide your rationale and, if 'Yes', please detail what you believe these impacts and interactions would be.*
The Workgroup invites you to give your views using the response form in Attachment A

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Workgroup's initial conclusions on P316

At this stage, P316 Workgroup members do not believe they are able to provide their initial views against the Applicable BSC Objectives. They consider that until they are able to fully assess the results of ELEXON's analysis and review responses to the assessment consultation they are unable to provide views due to the uncertainty in how P316 will impact participants. Therefore, the Workgroup has not put forward an initial recommendation on whether P316 should be approved or rejected.

Proposer's views against the Applicable BSC Objectives

The P316 Proposer believes that this Modification would better facilitate Applicable BSC Objectives (b) and (c), for the reasons set out below. They note that their rationale reflects the justification put forward for P305.

Applicable BSC Objective (b)

- The proposed changes to the imbalance price calculation will make prices more reflective of the value to consumers of balancing, particularly during times of very tight system margins. In doing so, market participants will be incentivised to make more efficient balancing and investment decisions. This should result in a reduction in the total costs (to the SO and to the market) of maintaining a balanced system, whilst presenting savings on the costs of delivering secure electricity supplies in the future.
- Making imbalance prices sharper will signal the commencement of reforms designed to better reflect the value of flexible plant in the balancing arrangements. It may therefore contribute to deferring the mothballing of flexible plant and help counteract potential tightening of margins.

Applicable BSC Objective (c)

- Reflecting the value that actions deliver supports effective competition by aligning competitive incentives of market participants with the interests of the consumer. A single marginal imbalance price eliminates distortions in the arrangements that currently impede value reflectivity, thereby supporting effective competition that drives value for the consumer.
- Strengthening the energy imbalance price signal through PAR reform should incentivise market participants to trade to balance their positions ahead of Gate Closure. This should increase liquidity in the forward market and benefit competition by encouraging investment in flexible capacity (flexible generation, demand participation and other technologies).
- The inclusion of a single imbalance price removes the existing inefficient price spread and for many market participants, in particular smaller parties who are less likely to drive the system length. This should reduce net imbalance costs and therefore help to mitigate the potential imbalance risk faced by market participants.

What are the Applicable BSC Objectives?

(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

(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

(d) Promoting efficiency in the implementation of the balancing and settlement arrangements

(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

(f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

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- The single marginal imbalance price may alter the incentives for parties to enter the market. The reforms address existing inefficiencies which limit the potential for some parties, in particular those offering services that facilitate flexibility and balance (such as Demand Side Response (DSR) or storage), to participate in the wholesale electricity market.

Assessment Consultation Question
Do you believe that P316 would better facilitate the Applicable BSC Objectives and should be approved? *Please provide your rationale with reference to the Applicable BSC Objectives.*
The Workgroup invites you to give your views using the response form in Attachment A

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P316 Solution Requirements

PAR and RPAR values

Requirement 1	
The values of RPAR and PAR will be set to 1MWh effective from the P316 Implementation Date.	
1.1	The SAA (BPO service provider) will set the values of RPAR and PAR within central systems to 1MWh effective from the P316 Implementation Date. These values will apply to all Settlement Days from the P316 Implementation Date onwards.
1.2	Participants who store the values of RPAR and PAR within their internal systems will need to update these values effective from the P316 Implementation Date.

Single imbalance price

Requirement 2	
If the NIV value is greater than zero in a given Settlement Period, the SBP will be calculated according to the Main Price calculation and the SSP will be set equal to the SBP.	
2.1	For any Settlement Period on or after the P316 Implementation Date for which the NIV value is greater than zero, the BMRA (BPO service provider) and the SAA (BPO service provider) will calculate the SBP in accordance with BSC Section T4.4.2(a), referred to in this document as the Main Price calculation.
2.2	For any Settlement Period on or after the P316 Implementation Date for which the NIV value is greater than zero, the BMRA (BPO service provider) and the SAA (BPO service provider) will set the SSP to be equal to the SBP.
2.3	For all Settlement Periods prior to the P316 Implementation Date, the values of SBP and SSP will continue to be calculated according to the methodology in force at the time (BSC Sections T4.4.2 and T4.4.3).
2.4	Participants who calculate the values of SBP and SSP within their internal systems will need to update these methodologies accordingly effective from the P316 Implementation Date.

Requirement 3	
If the NIV value is less than zero in a given Settlement Period, the SSP will be calculated according to the Main Price calculation and the SBP will be set equal to the SSP.	
3.1	For any Settlement Period on or after the P316 Implementation Date for which the NIV value is less than zero, the BMRA (BPO service provider) and the SAA (BPO service provider) will calculate the SSP in accordance with BSC Section T4.4.3(a), referred to in this document as the Main Price calculation.
3.2	For any Settlement Period on or after the P316 Implementation Date for which the NIV value is less than zero, the BMRA (BPO service provider) and the SAA (BPO service provider) will set the SBP to be equal to the SSP.

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Requirement 3	
3.3	For all Settlement Periods prior to the P316 Implementation Date, the values of SBP and SSP will continue to be calculated according to the methodology in force at the time (BSC Sections T4.4.2 and T4.4.3).
3.4	Participants who calculate the values of SBP and SSP within their internal systems will need to update these methodologies accordingly effective from the P305 Implementation Date.

Requirement 4	
If the NIV value is equal to zero in a given Settlement Period, the SBP will be set to the Market Price and the SSP will be set equal to the SBP.	
4.1	For any Settlement Period on or after the P316 Implementation Date for which the NIV value is equal to zero, the BMRA (BPO service provider) and the SAA (BPO service provider) will calculate the SBP in accordance with BSC Section T4.4.2(b) with reference to the Market Price.
4.2	For all Settlement Periods on or after the P316 Implementation Date for which the NIV value is equal to zero, the BMRA (BPO service provider) and the SAA (BPO service provider) will set the SSP to be equal to the SBP.
4.3	For all Settlement Periods prior to the P316 Implementation Date, the values of SBP and SSP will continue to be calculated according to the methodology in force at the time (BSC Sections T4.4.2 and T4.4.3).
4.4	Participants who calculate the values of SBP and SSP within their internal systems will need to update these methodologies accordingly effective from the P316 Implementation Date.
4.5	For all Settlement Periods, the BPO service provider will continue to calculate the Market Price as per BSC Section T4.3A and publish the Market Index Data on the ELEXON Portal in line with the current requirements.

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Appendix 2: Workgroup Details

Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P316 Terms of Reference
Is the proposed solution the most appropriate way to implement the EBSCR conclusion in relation to a single imbalance price and a marginal imbalance price?
Consider the Workgroup analysis and assessment of P305: • Does any additional work need to be completed to appropriately assess P316?
What is the most appropriate Implementation Date for P316?
What changes are needed to BSC documents, systems and processes to support P316 and what are the related costs and lead times?
Are there any Alternative Modifications?
Does P316 better facilitate the Applicable BSC Objectives than the current baseline?

Assessment Procedure timetable

P316 Assessment Timetable	
Event	Date
Panel submits P316 to Assessment Procedure	13 Nov 14
Workgroup Meeting 1 (joint with P305)	28 Nov 14
Workgroup Meeting 2 (joint with P305)	01 Dec 14
Assessment Procedure Consultation	15 Dec 14 – 14 Jan 15
Workgroup Meeting 3 (joint with P305)	21 Jan 15
Workgroup Meeting 4 (joint with P305) (if required)	23 Jan 15
Panel considers Workgroup's Assessment Report	12 Feb 15

Workgroup membership and attendance

P316 Workgroup Attendance			
Name	Organisation	28 Nov 14	01 Dec 14
Members			
Dean Riddell	ELEXON *(Chair)*	✓	✓
Talia Addy	ELEXON *(Lead Analyst)*	✓	✓
Bill Reed	RWE *(Proposer)*	✓	✓
Sally Lewis	National Grid	✗	✗
Esther Sutton	E.ON	✓	✓
Lisa Waters	Waters Wye Associates	✗	✗
Olaf Islei	APX	✓	✓
Sarah Owen	Centrica	✓	✓
James Anderson	Scottish Power	✗	✗

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P316 Workgroup Attendance			
Name	Organisation	28 Nov 14	01 Dec 14
Tom Edwards	Cornwall Energy	✓	✓
Andy Colley	SSE	✓	✓
Libby Glazebrook	GDF Suez	☎	✓
Colin Prestwich	SmartestEnergy	✓	✓
Cem Suleyman	Drax	✗	✗
Martin Mate	EDF	✓	✓
Christine Hough	Haven	✗	✓
Alan Goodbrook	Good Energy	✓	✓
Keith Munday	First Utility	✓	✓
Stephen Mason	Hess	✗	✓
Steven Bradford	Flow Energy	✗	✗
Attendees			
David Kemp	ELEXON *(P305 Lead Analyst)*	✓	✓
Nick Rubin	ELEXON *(Design Authority)*	✓	✓
Nick Brown	ELEXON *(Lead Lawyer)*	✗	✗
Alex Haffner	National Grid	✓	✓
Stephen Casement	National Grid	✓	✗
Matthew Roberts	National Grid	✓	✗
Dominic Scott	Ofgem	✓	✓
Dipali Raniga	Ofgem	✓	✓
David Beaumont	Ofgem	✓	✓
Richard Devenport	EDF	✓	✗
Sam Hollister	Energy UK	✓	✗
Jeremy Guard	First Utility	✗	✓
Peter Bolitho	Waters Wye Associates	✓	✓

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Appendix 3: Glossary & References

Acronyms

Acronyms used in this document are listed in the table below.

Glossary of Defined Terms	
Acronym	Definition
BMRA	Balancing Mechanism Reporting Agent
BPO	Business Process Operations
BSAA	Balancing Services Adjustment Actions
BSAD	Balancing Services Adjustment Data
CfD	Contracts for Difference
CM	Capacity Market
CSD	Code Subsidiary Documents
DSR	Demand Side Response
EBSCR	Electricity Balancing Significant Code Review
NIV	Net Imbalance Volume
PAR	Price Average Reference
RPAR	Replacement Price Average Reference
RSP	Reverse Scarcity Price
SAA	Settlement Administration Agent
SBP	System Buy Price
SMAF	System Management Actions Flagging
SO	System Operator
SSP	System Sell Price
VoLL	Value of Lost Load

External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

External Links		
Page(s)	Description	URL
7	P316 page on the ELEXON website	http://www.elexon.co.uk/mod-proposal/p316/
3	BSAD and SMAF Methodology Statements on the National Grid website	http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Codes-principles-methodologies/Methodologies/

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External Links		
Page(s)	Description	URL
4	Imbalance pricing information page on the ELEXON website	http://www.elexon.co.uk/reference/credit-pricing/imbalance-pricing/
4	P205 page on the ELEXON website	http://www.elexon.co.uk/mod-proposal/p205-increase-in-par-level-from-100mwh-to-500mwh/
5	EBSCR page on the Ofgem website	https://www.ofgem.gov.uk/electricity/wholesale-market/market-efficiency-review-and-reform/electricity-balancing-significant-code-review
5	Final EBSCR Policy Decision on the Ofgem website	https://www.ofgem.gov.uk/publications-and-updates/electricity-balancing-significant-code-review-final-policy-decision
5	P305 page on the ELEXON website	http://www.elexon.co.uk/mod-proposal/p305/
5	P304 page on the ELEXON website	http://www.elexon.co.uk/mod-proposal/p304/
5	P314 page on the ELEXON website	http://www.elexon.co.uk/mod-proposal/p314/

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