

Proposed Revisions to the  
Balancing Principles Statement,  
Balancing Services Adjustment Data Methodology  
Statement,  
System Management Action Flagging Methodology  
Statement

Following Industry Consultation

A Report by National Grid  
In accordance with Standard Condition C16 of its  
Electricity Transmission Licence

17<sup>th</sup> September 2015

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## Executive Summary

National Grid has carried out an interim review of the C16 Statements to address the following:

- Consequential changes to the C16 statements resulting from BSC Modification P305
- Changes to the C16 statements to incorporate SBR and DSBR into the cash-out calculation
- General changes as part of the review process, in particular:
  - Inclusion of actions taken to help manage RoCoF or fault levels as 'System Management'

Proposed changes have been made to update the following documents:

- Balancing Principles Statement (BPS)
- Balancing Adjustment Data (BSAD) Methodology Statement
- System Management Action Flagging (SMAF) Methodology Statement

This interim review<sup>1</sup> was conducted in accordance with Standard Condition C16 of the National Grid Electricity Transmission Licence.

Following this review, no changes were proposed to the following documents:

- Applicable Balancing Services Volume Data (ABSVD) Methodology Statement
- Procurement Guidelines

National Grid proposed the above changes via an industry C16 consultation document published on 31<sup>st</sup> July 2015. Industry responses to the consultation were requested by 10<sup>th</sup> September 2015. Responses were received from:

- Drax Power Limited
- First Utility
- Centrica
- Scottish Power
- RWE
- E.ON

This report provides details of the outcome of the C16 consultation process undertaken by National Grid.

### Recommendation

Following industry consultation, National Grid now presents to the Authority for consideration revised versions of the C16 Statements supporting: (i) changes resulting from BSC Modification P305, (ii) changes to incorporate SBR and DSBR into the cash-out calculation, (iii) general changes as part of the review process, in particular inclusion of actions taken to help manage RoCoF or fault levels as 'System Management'.

The Authority is invited to approve the revised versions of the C16 Statements as proposed in the consultation published on 31<sup>st</sup> July 2015 in relation to all three areas. However, we have presented the changes (using different colours to correspond to the different reasons for changes to the documents) to easily allow approval of one section and not another should this be required.

If the Authority does not approve any of the proposed changes to the C16 Statements, the existing versions will remain in place. Subject to approval by the Authority, the proposed changes will become effective from 5<sup>th</sup> November 2015.

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<sup>1</sup> Current versions of the C16 Statements can be found <http://www2.nationalgrid.com/uk/industry-information/electricity-codes/balancing-framework/transmission-license-c16-statements/>

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## Introduction

In accordance with Standard Condition C16 of its Electricity Transmission Licence, whenever National Grid considers that a modification should be made to the C16 Licence Statements to more accurately reflect their intended purpose, National Grid should review the statements and promptly seek to establish revised statements approved by the Authority.

The purpose of this interim review and consultation is to ensure that each of the applicable documents remains current by seeking industry views on any proposed changes. Proposed changes can only become effective if approved by the Authority.

A consultation was published on 31<sup>st</sup> July 2015 requesting responses no later than 10<sup>th</sup> September 2015. The Consultation Document was written to consult on the proposed changes that address three broad areas:

- Consequential changes to the C16 statements resulting from BSC Modification P305
- Changes to the C16 statements to incorporate SBR and DSBR into the cash-out calculation
- General changes as part of the review process, in particular:
  - Inclusion of actions taken to help manage RoCoF or fault levels as 'System Management'

As per the consultation "*These are standalone changes and it is our intention that they are considered independently of each other. Respondents are requested to consider and comment on the proposed changes individually; and also to provide views on which combination of changes should take effect*".

Different colours were assigned to the proposed changes to differentiate the three broad areas above (as well as consequential generic changes).

Colour code: **red denotes generic change;**  
**blue denotes P305 change;**  
**green denotes SBR/DSBR change**  
**purple denotes other**

Respondents were asked to provide comments and views on the proposed changes. Each proposed change was assigned an 'ID' reference which was provided in case respondents wish to comment on the suitability of specific changes.

Responses were received from:

- Drax Power Limited
- First Utility
- Centrica
- Scottish Power
- RWE
- E.ON

Following the closure of the consultation period, National Grid is required to prepare and submit a post-consultation report to the Authority within seven days in accordance with Electricity Transmission Licence Standard Condition C16 paragraph (8) by which National Grid invites the Authority to approve either all the proposed changes or one or two of the three areas only as described above.

This report provides details of the proposed change and consultation process undertaken by National Grid.

# 1 Industry responses to the C16 consultation

## 1.1 Consultation Questions

This Consultation Document has been written to consult on the proposed changes that address three broad areas:

- Consequential changes to the C16 statements resulting from BSC Modification P305
- Changes to the C16 statements to incorporate SBR and DSBR into the cash-out calculation
- General changes as part of the review process, in particular:
  - Inclusion of actions taken to help manage RoCoF or fault levels as ‘System Management’

The complete industry responses are attached in full as Appendix E. A summary of responses is included below.

No	Questions	Drax Power Limited	First Utility	Centrica	Scottish Power	RWE	E.ON
1	Do you agree with the changes proposed to facilitate BSC Modification P305? If not, please provide rationale.	Y	Y	Y	Y	Y	Y
2	Do you think any further changes are required to facilitate BSC Modification P305? If so, please provide details.	N	Y	N	Y	N	N
3	Do you have any other comments in relation to the changes proposed to facilitate BSC Modification P305?	N	Y	N	N	N	N
4	Do you agree with the changes proposed to incorporate DSBR and SBR into the calculation of the cash-out price? If not, please provide rationale.	Y	N	Y	Y	N	N
5	Do you think any further changes are required to incorporate DSBR and SBR into the calculation of the cash-out price? If so, please provide details.	N	Y	N	N	Y	Y
6	Do you have any other comments in relation to the changes proposed to incorporate DSBR and SBR into the calculation of the cash-out price (e.g. interaction with BSC Modification P323)?	N	N	N	Y	N	Y
7	Do you agree that actions taken to manage the risks associated with high RoCoF or Fault Levels should be considered ‘System Management’ actions and do you agree with the change proposed to implement this? If not, please provide rationale.	N/A	Y	Y	Y	Y	Y
8	Do you have any additional comments you would like us to consider regarding the changes proposed in this consultation?	N	N	Y	N	N	Y
9	Are there any further changes that you think should be considered in this C16 interim review?	N	N	N	N	Y	N

No	Questions	Drax Power Limited	First Utility	Centrica	Scottish Power	RWE	E.ON
10	Are there any changes that you think should be considered in the next C16 annual review?	N	N	N	N	Y	N

### 1.1.1 Consequential Changes to C16 Statements for P305

Industry responses to the consultation questions are shown below, together with National Grid's view (only the consultation questions which provided rationale for responses are shown).

#### **Consultation Question 1**

*Do you agree with the changes proposed to facilitate BSC Modification P305? If not, please provide rationale.*

#### **Industry Response:**

##### Drax

Yes: We agree for the same reasons presented in the consultation document.

##### Scottish Power

Yes: The proposed changes to the C16 statements (BSAD, SMAF and BPS) provide clarity on the detailed process steps required to implement Approve BSC Modification P305. This reduces uncertainty to users thus better facilitates competition.

##### E.ON

Yes: We agree that LFDD should be classed as an Emergency Instruction that is subject to SO-Flagging and included in the definition of 'System Management' in the SMAF. We agree with the changes to include non-BM STOR actions in the cash-out price and removal of STOR option fees from the BPA.

**National Grid's View:** N/A

#### **Consultation Question 2**

*Do you think any further changes are required to facilitate BSC Modification P305? If so, please provide details.*

#### **Industry Response:**

##### Scottish Power

Yes: We have concerns that tagging SBR actions up to (and including output at) the SEL of the relevant SBR BM Unit does not take account of unutilised Offers in the BM stack (which are displaced by the ramping and SEL volume) and could impact the resultant imbalance price in these periods.

This could disrupt the continuum of imbalance prices as SBR utilisation approaches reducing the efficiency of signals sent to market participants.

In addition, we note that the issue of compensation for plant displaced by SBR is being addressed as part of the NGET consultation on extending the SBR and DSBR services.

##### E.ON

No: We have not identified any additional changes that would be required.

**National Grid's View:** As the concern raised by Scottish Power above appears to be in relation to SBR (and is similar to another comment on this subject), we will address this below in our view on responses to Question 4.

### **Consultation Question 3**

*Do you have any other comments in relation to the changes proposed to facilitate BSC Modification P305?*

#### **Industry Response:**

E.ON

No: We have no further comments in relation to the changes to facilitate P305.

**National Grid's View:** N/A

### 1.1.2 Changes to incorporate DSBR and SBR into the calculation of the cash-out price

### **Consultation Question 4**

*Do you agree with the changes proposed to incorporate DSBR and SBR into the calculation of the cash-out price? If not, please provide rationale.*

#### **Industry Response:**

Drax

Yes: We agree for the same reasons presented in the consultation document. In particular, we believe it is sensible that ramping SBR units to and holding the units at Stable Export Limit (SEL) should not impact cash-out prices.

First Utility

No: "We have a few concerns related to this:

Firstly, it needs to be clear that in the unlikely event that a SBR or DSBR action is taken for Transmission Constraint purposes it will not form any part in the price formulation and will be tagged as such. A variety of changes will be required across the documents including the SMAF rules to remove the potential ambiguity that exists. For example; BSAD Methodology Statement 4.3 need a new point added "6. Any Balancing Action used to despatch Supplemental Balancing Reserve for the purposes of resolving a Transmission Constraint".

Secondly, the CADL rules apply for actions of less than 15 mins. Thus, an SBR action taken for 1 minute in one settlement period and 15 mins in the next will impact the prices of 2 settlement periods. Under certain scenarios, this may not yield a cost reflective result and as such the costs of being out of balance, which are more significant to smaller players will be higher than necessary. For example a settlement period where for 29 mins it is balanced then in the last minutes an SBR action is called the whole settlement period will end up being prices at SBR rather than the 1-minute of action taken. The net effective is cashout pricing does not reflect the costs imposed by those out of balance on the system. This situation will be exacerbated on the move to PAR 1 as the highest priced action will be the SBR action. To resolve this we believe for SBR actions the 15-minute CADL rule should apply per settlement period rather than be an absolute duration. BSC parties can only balance energy in settlement periods and not partial periods, they therefore should not be penalised by costs incurred in partial periods they cannot hedge"

Scottish Power

Yes: We believe that the changes proposed to the C16 Licence Statements accurately reflect the intentions of P305 by incorporating SBR and DSBR in the imbalance price.

RWE

No: We do not support the automatic tagging of SBR as a system action except in relation to tests. We believe that the price of the action taken should be reflected into cash out. Indeed an enduring solution should include the application of the Reserve Scarcity Pricing function to ensure that utilisation of SBR is fully aligned with other reserve products in relation to its treatment in cash out.

## E.ON

No: "We agree with the changes proposed for DSBR, but do not agree with the changes proposed for SBR, in particular SO Flagging the actions to take SBR plant up to and hold at SEL. This is because it is inconsistent with the treatment of equivalent actions for other ancillary services. Also, at maximum the SBR SEL volume, circa 1.8GW, represents 75% of the SBR total volume, 2.454GW. We estimate that approximately 1.3GW of this volume would be subject to warming and synchronising instructions which may be further out than a DSBR instruction. This plant could be held at SEL and thereby mitigate against a stress event, avoiding the need for SBR to be instructed above SEL (or for DSBR to be instructed at all), but still in effect be used as a proxy for Demand Control actions that would otherwise be priced at VoLL. We understand that instead of VoLL the consequence of SO Flagging this volume is that it would be re-priced at the Replacement Price, which would be set at the marginal 1MWh under P305. This may attract the RSP where LoLP is closer to 1, however this is dependent on how the LoLP outturns for those periods where SBR plant is instructed to SEL but not taken above MEL. We do not think it necessarily follows that SBR volume up to SEL will be priced at a level that reflects the true value of the generation for those periods in these circumstances."

**National Grid's View:** On the question regarding use of SBR for transmission constraint purposes, this is not why the service is procured and location is clearly not relevant to assessment of tenders (see FAQ document on the website - <http://www2.nationalgrid.com/UK/Services/Balancing-services/System-security/Contingency-balancing-reserve/SBR-Tender-Documentation/>). However, for the avoidance of doubt, we believe that, in the extremely unlikely event that SBR was used to resolve a transmission constraint, the fact that the SMAF currently defines "1. any balancing service used by National Grid that partially or wholly resolves a transmission constraint" as "System Management" should offer comfort on this. DSBR is not a locational service and therefore could not resolve a transmission constraint.

On the question regarding CADL, this is a parameter defined in the BSC and the rules associated with its application are also set out in the BSC. SBR and DSBR are currently exposed to CADL-tagging in the same manner as any other balancing action (NB – DSBR is procured in blocks of no less than 1 hour and so would never be CADL-tagged) and we see no requirement to apply specific rules purely for them (e.g. due to the high cash-out prices that may result).

Three responses to this consultation expressed concerns around the proposal to SO-flag the volume of SBR that is instructed below and at SEL. We recognise these concerns and tried to address them in Appendix E to the previous consultation. On the ramping volume, our position is that this volume should be priced at the level of the highest priced non-tagged action and that SO-flagging best facilitates this. It certainly appears a better solution than applying the utilisation price as this is highly likely to be too high at the start of the ramp and potentially too low nearer the stress event. We do not agree that RSP should be used to "ensure that utilisation of SBR is fully aligned with other reserve products in relation to its treatment in cash out" as we feel that SBR and DSBR should not be considered in the same way as other reserve products and rather as emergency services which are a proxy for demand control. Also, as noted in Appendix E of the previous consultation, while we see some advantages in utilising RSP, we also have some concerns. Therefore, this would require further analysis if it is to offer an enduring solution to ensure it is fit for purpose (e.g. due to the fact that SBR and DSBR are currently not included in the LOLP calculation).

In terms of the volume held at SEL during a stress event, we have some sympathy with the view that this is likely to be helping to avoid demand control and that it should therefore be priced at VoLL in the same manner as the volume above SEL. However, we also note that determining whether this is the case is likely to involve in-depth post-event analysis which would not be possible in the timescales being considered. Instead, our understanding is that it is more important to provide clear ex ante policy certainty. With this in mind, we believe that it is not appropriate to price all of the volume during the stress event at VoLL as, at the time SBR is instructed, there is no guarantee that the volume will actually be required in real time.

Notwithstanding this, the proposal to SO-flag the ramping and SEL volume was supported by the majority of respondents to the earlier consultation (and related workshops on the subject)

### **Consultation Question 5**

*Do you think any further changes are required to incorporate DSBR and SBR into the calculation of the cash-out price? If so, please provide details.*



## Industry Response:

### First Utility

Yes: The references to tagging in C16, the CADL statement and SMAF rules need to be clear that SBR actions taken for Constraint action will be tagged out.

### RWE

Yes: we believe that the Reserve Scarcity Pricing function should be applied to SBR.

### E.ON

Yes: "Depending on NGET's view of our response to question 4 on the treatment of the SBR volume up to SEL, changes would be required to reflect the pricing of this volume at VoLL. ID3.6 – 'T' needs to be added after 'Section' in the final sentence of the second paragraph explaining DSBR. (First paragraph on page 11 of BSAD methodology)."

**National Grid's View:** We have amended the BSAD Methodology document to reflect the helpful correction suggested by Eon above. We note the concerns regarding pricing of the SBR ramp and SEL volumes and hope that our explanations above (and in relation to CADL and constraints) are helpful. However, we do not propose to make any changes to our proposal in this respect.

## **Consultation Question 6**

*Do you have any other comments in relation to the changes proposed to incorporate DSBR and SBR into the calculation of the cash-out price (e.g. interaction with BSC Modification P323)?*

## Industry Response:

### Scottish Power

Yes: "In our response to the consultation on P323 we requested that, while it was impractical to implement an automated system for handling SBR and DSBR actions in time for the November 2015 BSC release, an impact assessment and cost-benefit analysis be carried out on delivering an automated system for future years (particularly in light of the consultation on extending the SBR and DSBR services. Until 2017/18).

We note the aspiration by NGET in Appendix E to enable a solution which would allow imbalance prices to be published the following working day thus providing earlier signals to market participants."

### E.ON

Yes: "We note that P323 thus far is consistent with NGET's proposals in this C16 statements consultation. If NGET changes any of its proposals in light of responses to the consultation P323 may not be fully compatible and that further urgent changes to the BSC may be required if they are to be implemented for 5th November 2015."

**National Grid's View:** In relation to consideration of costs and benefits of automating the inclusion of SBR and DSBR instructions into imbalance prices, this forms part of the P323 solution and will therefore be progressed via this route.

We are also aware of the need for consistency between the final C16 recommendation and the P323 solution. As a result we will ensure that any relevant changes made at this stage of the C16 process are reflected in the P323 Final Modification Report so as to facilitate consistent decision making by the Authority.

## 1.1.3 Inclusion of RoCoF and Fault Level actions into the definition of a 'System Management' action

## **Consultation Question 7**

*Do you agree that actions taken to manage the risks associated with high RoCoF or Fault Levels should be considered 'System Management' actions and do you agree with the change proposed to implement this? If not, please provide rationale.*

## Industry Response:

### Scottish Power

Yes: We agree that actions taken to manage the risk associated with high RoCoF or Fault Levels should be flagged as System Management and believe that the proposed change achieves this.

### RWE

Yes: We agree that actions taken to manage the risks associated with high RoCoF or Fault Levels should be considered 'System Management' actions.

### E.ON

Yes: "We agree that balancing actions used primarily to manage the Rate of Change of Frequency or fault levels should fall within the definition of a System Management action."

**National Grid's View:** N/A

## 1.1.4 General

### **Consultation Question 8**

*Do you have any additional comments you would like us to consider regarding the changes proposed in this consultation?*

## Industry Response:

### Centrica

Yes: "Comments are in relation to the proposed changes to the BPS (5.1 to 5.5).

As P305 has now been directed by the Authority, we suggest that DSBR contracts should be economically assessed in relation by the VoLL levels that will feed into the cash-out regime introduced under P305, rather than £17,000/MWh as calculated as part of the London Economics study. That given, future DSBR contracts with no set up costs should only be accepted only if their utilisation prices are below £3,000/MWh until November 2018 when this value should be increased to £6,000/MWh. Likewise DSBR contracts with a set-up cost should be also be evaluated on an economic basis against a VoLL of £3,000/MWh rising to £6,000/MWh from November 2018.

It does not appear rational for National Grid to contract for products over and above the cost of the last available action – a demand control action- which is costed at £3,000/MWh (rising to £6,000/MWh) within the cash-out arrangements.

If the contracts are not limited appropriately, this could lead to National Grid having to take uneconomic actions as DSBR contracts should generally be actioned ahead of SBR actions. Additionally, if utilised, the cost of these actions will impact BSUoS costs and, depending on the utilisation rates, they could ultimately impact consumer's costs."

### E.ON

Yes: "We believe that it is essential that National Grid is obliged to publish details of all DSBR instructions as soon as they are issued for the purposes of real Demand mitigation purposes."

**National Grid's View:** In relation to both of the issues above, the concerns (i.e. the relationship between DSBR pricing thresholds and VoLL and timeliness of DSBR publications) have been passed on to our DSBR team as they are broader issues than C16 and refer more directly to DSBR procurement and operation. If changes are required to the C16 statements as a result of these issues they will be considered in the next C16 Annual Review.

### **Consultation Question 9**

*Are there any further changes that you think should be considered in this C16 interim review?*

## Industry Response:

RWE

Yes: We believe that the timely publication of BSAD actions should be considered in this interim C16 review so that these actions taken by National Grid are reflected into cash out at the time that they occur. We believe this is required to address concerns about the publication of “inside information” under the REMIT and Transparency Regulations.

E.ON

No: "We have not identified anything further at this time."

**National Grid's View:** On the subject of ‘timely publication of BSAD actions’, we note that the wording in the BSAD Methodology in this area includes cross-references to the BSC, and that there is a reference in the response to ‘cash-out’. As a result any changes to BSAD may potentially require a consequential BSC modification and mean that it will not be possible to make any related changes as part of this Interim Review. However, the issue seems similar to another concern raised in this area which we are currently investigating and so these investigations may well lead to a change in the process of BSAD submissions – both in the BSAD Methodology and the BSC.

**Consultation Question 10**

*Are there any changes that you think should be considered in the next C16 annual review?*

**Industry Response:**

RWE

Yes: If the timely publication of BSAD information is not considered as part of the C16 interim review then this issue should be addressed in the next C16 Annual Review. We believe this issue must be addressed to reflect concerns about the publication of “inside information” under the REMIT and Transparency Regulations.

E.ON

No: "We have not identified anything further at this time."

**National Grid's View:** As above, we will investigate the issue in relation to BSAD information provision and keep the respondent up to date with progress. We will also ensure the subject is considered as part of the next C16 Annual Review as requested.

## 2 Proposed Changes to the BSAD Methodology Statement

National Grid consulted the industry on the following proposed change to the BSAD Methodology. The only change that has been made following consideration of the industry responses is that the final sentence of the first paragraph on page 11 has been amended as suggested by Eon (see highlight in ID 3.6 below).

### 2.1 Proposed change to the BSAD

Relevant consequential changes from P305 to the BSAD:

- Non-BM STOR actions will be introduced into the cash-out price;
- Option fees that are paid for STOR availability will be removed from the BPA;

Relevant changes to the BSAD to incorporate SBR and DSBR into the cash-out calculation:

- DSBR actions to feed into the cash-out price;
- Use of the Buy Price Adjuster (BPA) to reflect the value of SBR despatch within the imbalance calculation.

To capture these changes we propose the amendments detailed in Table 1 below:

Colour code: **red denotes generic change**  
**blue denotes P305 change**  
**green denotes SBR/DSBR change**

**Table 1 – Proposed changes to the BSAD**

ID	Purpose of Change	Reference	Change
3.1	Version control change	Title Page	Change to <b>Effective Date</b> Change to <b>Version Number</b>
3.2		Page 3 Version Control Table	Insertion of a new version control entry which will include <b>“Revisions: to allow Non-BM STOR to feed into the cash-out calculation; to remove STOR option fees from the BPA calculation; and to allow SBR and DSBR actions to feed into the cash-out calculation”</b>
3.3	Removal of STOR from BPA	Page 5 Contents Page	Deletion of <b>“Appendix A Calculation and Publication of Short Term Operating Reserve (STOR) Weighting Factors”</b>
3.4	Explicitly include non-BM STOR actions into the cash-out calculation	Page 8, Part B Sec 2	Insertion of <b>“Any relevant balancing service including non-BM Short Term Operating Reserve (STOR) actions, taken outside the Balancing Mechanism, will be provided through BSAD as a Balancing Service Adjustment Action.”</b>
3.5	Allow non-BM STOR and DSBR actions to feed into the calculation. Omit DSBR test actions.	Page 9, Part B Sec 2	Insertion of <b>“DSBR actions will feed into the BSAD in post-event re-submission(s). For the avoidance of doubt, volumes and prices of <del>both non-BM STOR and DSBR test actions are covered via separate balancing services contracts and</del> do not <del>therefore</del> feed into the energy imbalance price calculation <del>at present</del>”</b>
3.6	Detail the incorporation of DSBR and SBR	Page 10, Part B Sec 2.1	<b><u>Demand Side Balancing Reserve (DSBR)</u></b> <b>All DSBR actions, except those taken for testing the service, will be included as Balancing Service Adjustment Actions. For the avoidance of doubt, the volumes and costs of DSBR actions</b>

ID	Purpose of Change	Reference	Change
	actions into the imbalance price		<p>taken for test purposes do not feed into the energy imbalance price calculation.</p> <p>For the purpose of calculating the energy imbalance price, the Balancing Service Adjustment Volume for DSBR will be the aggregated instructed volumes of all DSBR actions within a particular settlement period, multiplied by the prevailing de-rating factor for DSBR. The price associated with each DSBR action that will form the Balancing Service Adjustment Cost will be the prevailing Value of Lost Load (VoLL) provided under Section 1.12 of the BSC.</p> <p><b>Supplemental Balancing Reserve (SBR)</b></p> <p>For the avoidance of doubt, SBR volumes and prices will be included in the energy imbalance calculation as Bid-Offer Acceptances (BOAs) in the Balancing Mechanism (BM). It is only in the event that an SBR unit is instructed above its Stable Export Limit (SEL) that the BPA is utilised as set out in 3.1.1 below.</p>
3.7	Removal of STOR from the BPA	Page 13, Part B Sec 3	Insertion of “With the exception of STOR services, <del>where where</del> National Grid pays option fees...”
3.8		Page 13, Part B Sec 3.1	<p>Amendment to calculation of BPA, replacement of:</p> $BPA_j = \frac{[(\sum SC) * wf_j] + (\sum RC_j) + (\sum FC_j)}{(cS_j + cR_j + cF_j)} + \sum \frac{BC}{cB}$ <p>...with the following:</p> $BPA_j = \frac{(\sum RC_j + \sum FC_j)}{(cR_j + cF_j)} + \sum \frac{BC}{cB}$ <p>Including relevant deletions in the notations that follow:</p> <p><del>SC = cost of purchases of STOR option fees for the relevant day (£)</del></p> <p><del>wf<sub>j</sub> = relevant STOR weighting factor as set out in Appendix A</del></p> <p><del>cS<sub>j</sub> = capability of STOR contracts for the relevant settlement period (MWh)</del></p>
3.9		Page 14, Part B Sec 3.1.1	<p>Deletion of: “<b>Short Term Operating Reserve (STOR)</b> In these contracts National Grid will pay option fees either in £/h or £/MWh for service availability during specific half-hour periods. Utilisation payments for participants within the Balancing Mechanism will be dealt with automatically via the BM and will feed into the energy imbalance price calculation via the acceptance of an Offer. STOR Option Fees feed into the calculation of BPA and will be allocated into specific settlement periods in accordance with the weighting factors set out in Appendix A.”</p>
3.10		Page 16, Part B Sec 3.1.2	Worked Example – Buy Price Adjuster: changes to the worked example to remove STOR from the BPA
3.11	Use of BPA to reflect SBR despatch into the imbalance price	Page 15, Part B Sec 3.1.1	Insertion of “In the event that SBR units are instructed above SEL as a result of system need (i.e. not as part of testing requirements), the BPA will be manually amended retrospectively to enable this volume above SEL to be priced at the Value of Lost Load as set out in Sections Q and T of the BSC and detailed in BSCP18.”
3.12	Add DSBR and SBR	Page 19, Part C Sec	Insertion of “The costs and volumes of DSBR actions, System-to-System services, ... will be included in a post event re-

ID	Purpose of Change	Reference	Change
	actions to	1	submission(s) of BSAD...”
3.13	those which will be included in post event BSAD re-submission (s)	Page 20, Part C Sec 3	Insertion of “The BSAD will be re-submitted, if required, post event to cover: ... <b>Inclusion of DSBR actions...Revision of BPA to reflect SBR actions...</b> ”
3.14	Removal of STOR from the BPA	Page 22-27 Appendix A	Deletion of the whole <del>Appendix A: Calculation and Publication of Short Term Operating Reserve (STOR) Weighting Factors</del>

The proposed changes detailed above are shown in a changed marked version of the BSAD attached as Appendix A.

### 3 Proposed Changes to the SMAF Methodology Statement

National Grid consulted the industry on the following proposed change to the SMAF Methodology. No changes have been made following consideration of industry responses.

#### 3.1 Proposed change to the SMAF

Relevant consequential changes from P305 to the SMAF:

- Automatic LFDD relays will be treated as a balancing measure that is subject to SO-flagging and defined as ‘System Management’ actions and SO-flagged

Relevant changes to the SMAF to incorporate SBR and DSBR into the cash-out calculation:

- Introduction of SBR and DSBR actions as balancing measures that are subject to SO-flagging
- Description of how different aspects of SBR actions (e.g. ramping up / down, volumes above and below Stable Export Limit (SEL) and testing) should be treated in terms of SO-flagging

Other changes to the SMAF for more general purposes:

- Inclusion of actions that help the management of RoCoF<sup>2</sup> or Fault Levels<sup>3</sup> as a category of System Management

To capture these changes we propose the amendments detailed in Table 2 below:

Colour code: **red denotes generic change;**  
**blue denotes P305 change;**  
**green denotes SBR/DSBR change**  
**purple denotes other**

<sup>2</sup> RoCoF stands for Rate of Change of Frequency and is a parameter of electricity transmission system operation that can require pre-fault management to mitigate the risk that generation with sensitive protection settings might trip off in the event of a significant system event (e.g. plant loss).

<sup>3</sup> Fault levels require careful management as the transmission system must be configured pre-fault to ensure that, should a fault take place, fault current levels are maintained within the limits of transmission assets.

Table 2 – Proposed changes to the SMAF

ID	Purpose of Change	Reference	Change
4.1	Version control change	Title Page	Change to <b>Effective Date</b> Change to <b>Version Number</b>
4.2		Page 2 Version Control Table	Insertion of a new version control entry which will include “ <b>Revisions: to include actions to manage RoCoF and Fault Levels; to include automatic Low Frequency Demand Disconnection actions; to incorporate changes to the treatment of Supplemental Balancing Reserve and Demand Side Balancing Reserve.</b> ”
4.3	Detail the aspects of SBR that are counted as System Management	Page 7 Part B Sec 1	Change to: “System Management means: ...4. any balancing action used to despatch <del>the</del> Supplemental Balancing Reserve <b>for the purposes of testing the</b> service whether though or outside the Balancing Mechanism; <b>5. any balancing action used to despatch Supplemental Balancing Reserve up to (and including output at) the Stable Export Limit of the relevant BM Unit;</b>
4.4	Include automatic LFDD relays within the definition of System Management	Page 7 Part B Sec 1	Insertion of “System Management means: ... <b>7. any incidents of automatic Low Frequency Demand Disconnection relays;</b>
4.5	Include RoCoF and fault level management actions within the definition of System Management	Page 8 Part B Sec 1	Insertion of “System Management means: <b>6. any balancing action used by National Grid primarily to manage the Rate of Change of Frequency (RoCoF) or to manage fault levels.</b> ”
4.6	Clarification of Emergency Deenergisation Instructions as an emergency action	Page 10 Part B Sec 2	Change to: “ <del>There is one form of emergency action that</del> <b>Emergency Deenergisation Instructions</b> will always be classified as being for system management reasons and will consequentially always be SO-Flagged <del>—Emergency Deenergisation Instructions.</del> ”
4.7	Expansion of Emergency Instructions (in relation to those balancing services that are assessed to determine which have been used for system management reasons) to include automatic Low Frequency Demand Disconnection actions	Page 10 Part B Sec 2	Insertion of: “ <b>Automatic Low Frequency Demand Disconnection (LFDD) actions</b> <b>Automatic LFDD incidents will always be classified as occurring for system management reasons and as such will always be SO-Flagged. From 5 November 2015, automatic LFDD events will be notified by National Grid as system warnings and published to the BMRS.</b> ”
4.8	Inclusion of SBR and DSBR to the list of balancing services that are assessed to determine which have been used for system management reasons	Page 10 Part B Sec 2	Insertion of: “ <b>Supplemental Balancing Reserve (SBR) and Demand Side Balancing Reserve (DSBR) actions</b> <b>SBR and DSBR actions, whether or not they are taken in the BM, will be considered to determine whether they were used for system management reasons. It is anticipated that SBR and DSBR actions will be not taken to resolve a transmission constraint. Any ramping of SBR units up to and including output at the unit’s individual Stable Export Limit (SEL) will be SO-flagged. For the avoidance of doubt, when taken for test purposes, SBR actions will be SO-flagged and neither volume nor prices for DSBR test actions will feed into the energy imbalance price calculation.</b> ”
4.9	Removing superfluous	Page 12	Deletion of: “ <del>This revised flag amendment process</del> ”

ID	Purpose of Change	Reference	Change
	text	Part C Sec 1	<del>will commence in line with the June 2014 Elexon Release to incorporate updates to Elexon systems to accommodate the flag amendments.</del>

The proposed changes detailed above are shown in a changed marked version of the SMAF attached as Appendix B.

## 4 Proposed Changes to the BPS

National Grid consulted the industry on the following proposed change to the BPS Methodology. No changes have been made following consideration of industry responses. However, whilst considering the references to VoLL, we noticed that the change to the “de-rating” level may need updating in the future. Therefore, we believe that it is more appropriate to cross-refer to the DSB Methodology document rather than explicitly state a figure in the BPS (see highlighted text below in ID 5.4).

### 4.1 Proposed change to the BPS

The BPS contains some detail on how DSB and SBR are assessed when tendering for those services. This includes descriptions of the processes referencing the Value of Lost Load (VoLL) as an upper limit cost threshold for the utilisation prices. The VoLL used here is the £17,000/MWh value determined in the study by London Economics in its estimation of the value<sup>4</sup>. However this is not explicit in the document which we recognise has the potential to give rise to confusion, in particular once the concept of VoLL is formally introduced into core industry documents through P305 (e.g. the BSC) at a different level to the London Economics study.

As such, some minor amendments are recommended to improve clarity in the document. DSB, SBR and the administrative VoLL have all been introduced by changes outside this consultation. Therefore, whilst some of the other issues presented in this consultation relate to those matters, these proposed BPS changes are not contingent on the other issues presented in this consultation.

To capture these changes we propose the amendments detailed in Table 3 below:

Colour code: **red denotes generic change;**  
**purple denotes other**

**Table 3 – Proposed changes to the BPS**

ID	Purpose of Change	Reference	Change
5.1	Version control change	Title Page	Change to <b>Effective Date</b> Change to <b>Version Number</b>
5.2		Page 2 Version Control Table	Insertion of a new version control entry which will include <b>“Revisions following interim review.”</b>
5.3	Change DSB reference to Value of Lost Load to £17,000/MWh	Page 30 Part D Sec 3.2	“However, only tenders with a utilisation cost less than <del>the Value of Lost Load</del> <b>£17,000/MWh<sup>1</sup></b> will be accepted...  Where DSB tenders are received from DSB providers who do wish to be paid a set up fee, the quantity of DSB procured is determined on an economic basis by reference

<sup>4</sup> <https://www.ofgem.gov.uk/ofgem-publications/82293/london-economics-value-lost-load-electricity-gb.pdf>



ID	Purpose of Change	Reference	Change
			to the <del>Value of Lost Load</del> £17,000/MWh threshold, tender prices for DSB and our assessment of expected quantity of service call-off...  <sup>1</sup> Based on the central estimate of the Value of Lost Load provided in the London Economics study 'The Value of Lost Load (VoLL) for Electricity in Great Britain' (2013)"
5.4	Amendement to the adjustment factor used to de-rate DSB	Page 30 Part D Sec 3.2	"In the assessment of such DSB tenders, the capacity of the DSB included in a particular tender will be <del>de-rated in line with the published DSB Procurement Methodology</del> <sup>2</sup> <del>reduced by 2515% in undertaking is economic assessment.</del> "  <sup>2</sup> See <a href="http://www2.nationalgrid.com/UK/Services/Balancing-services/System-security/Contingency-balancing-reserve/Methodologies/">http://www2.nationalgrid.com/UK/Services/Balancing-services/System-security/Contingency-balancing-reserve/Methodologies/</a> for more information.
5.5	Change SBR reference to Value of Lost Load to £17,000/MWh	Page 31 Part D Sec 3.2	"We will aim to procure a quantity of SBR having regard to the matters described above on an economic basis by reference to the <del>Value of Lost Load</del> £17,000/MWh threshold, ..."

The proposed changes detailed above are shown in a changed marked version of the BPS attached as Appendix C.

## 5 Proposed Recommendations

National Grid notes the responses given by the Industry to the proposed changes to the C16 Statements and has carefully considered each of the responses to the changes proposed by National Grid within the C16 consultation. National Grid has provided its views in relation to the responses received in the relevant sections above.

Following industry consultation, National Grid now presents to the Authority for consideration change marked versions of the C16 Statements supporting (i) the consequential changes to the C16 statements resulting from BSC Modification P305, (ii) changes to the C16 statements to incorporate SBR and DSB into the cash-out calculation, (iii) general changes as part of the review process, in particular inclusion of actions taken to help manage RoCoF or fault levels as 'System Management'.

The Authority is invited to approve the revised versions of the C16 Statements as proposed in the consultation published on 31<sup>st</sup> July 2015 in relation to all three areas. However, we have presented the changes (using different colours to correspond to the different reasons for changes to the documents) to easily allow approval of one section and not another should this be required.

If the Authority does not approve any of the proposed changes to the C16 Statements, the existing versions will remain in place.

Subject to approval by the Authority, the proposed changes will become effective from 5<sup>th</sup> November 2015.

## **APPENDIX A - Change Marked BSAD**

Please see separate document.

## **APPENDIX B - Change Marked SMAF**

Please see separate document.

## **APPENDIX C - Change Marked BPS**

Please see separate document.

## **APPENDIX D - Consultation Document**

Please see separate document.

## **APPENDIX E - Industry Responses**

Please see separate document.