

P335 'Inclusion of Non-BM STOR costs and volumes in the indicative cashout price'

P335 seeks to facilitate the early submission of non-BM STOR costs and volumes such that they can be included in the indicative cashout price. The aim of this Modification is to improve the incentivising signals provided by cashout and facilitate optimal trading decisions by participants.

This Assessment Procedure Consultation for P335 closes:

5pm on Friday, 24 June 2016

The Workgroup may not be able to consider late responses.



The P335 Workgroup initially recommends **approval** of P335

This Modification is expected to impact:

- Transmission Company
- ELEXON

Phase

Initial Written Assessment

Definition Procedure

Assessment Procedure

Report Phase

Implementation



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About This Document

The purpose of this P335 Assessment Procedure Consultation is to invite BSC Parties and other interested parties to provide their views on the merits of P335. The P335 Workgroup will then discuss the consultation responses, before making a recommendation to the BSC Panel at its meeting on 14 July 2016 on whether or not to approve P335.

There are three 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 draft redlined changes to the BSC for P335.
- Attachment B 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.

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Why Change?

The Proposer notes that cashout is meant to provide the principal incentive for demand and supply to balance in the short term. The Proposer believes that to provide this incentive, cash-out prices need to be accurate in the short term in order to encourage efficient short term decision making.

The Transmission Company is required to submit an estimate of Balancing Service Adjustment Data (BSAD) as soon as reasonably practicable after Gate Closure, and in practice reports BSAD very shortly after Gate Closure. The Proposer notes that the Transmission Company typically dispatches non-Balancing Mechanism (BM) Short Term Operating Reserve (STOR) after Gate Closure, and therefore data relating to it cannot be submitted until the next day, in the revised BSAD.

The Proposer contends that delay in the inclusion of non-BM-STOR can result in both a change in the direction of the Net Imbalance Volume (NIV), from long to short, and a change in the cashout price, noting the current dispatch volumes of up to 300MWh of non-BM STOR.

The Proposer contends that the cashout price published after the end of a Settlement Period cannot be relied upon because it may change between the indicative price calculation and the Interim Information (II) Settlement Run calculation, and that delay in the inclusion of non-BM STOR costs and volumes can cause such change, and that this unreliability reduces the incentive to balance and can lead to sub-optimal trading decisions being made.

Solution

P335 would place a specific requirement on the Transmission Company to send an additional BSAD submission after the end of the Settlement Period (SP), to enable the inclusion of non-BM STOR costs and volumes in the indicative cashout price calculation.

Impacts

P335 will impact the Transmission Company and ELEXON.

Implementation

P335 is proposed for implementation on 2 November 2017 (November 2017 BSC Systems Release).

Recommendation

The Workgroup's initial majority view is that P335 **better** facilitates Applicable BSC Objective (b), (c) and (d) and therefore initially recommends that P333 should be **approved**.

2 Why Change?

Background

Balancing services are used by the Transmission Company in its role as System Operator (SO) to balance supply and demand in real time. Details of accepted Balancing Services are used in the calculation of imbalance prices (also known as cash-out prices).

Balancing Service Adjustment Data (BSAD)

The BSAD Methodology Statement sets out information on relevant balancing services that are taken outside of the BM to balance the system and are taken into account under the BSC for the purposes of determining Imbalance Prices. Some of these balancing services are included in the price calculation stack as discrete balancing actions called Balancing Service Adjustment Actions (BSAAs), and other costs are reflected in additions to the final imbalance price, as the Buy Price Adjuster (BPA) and the Sell Price Adjuster (SPA).

The Balancing and Settlement Code (BSC) requires the Transmission Company to submit its estimate of BSAD in relation to a Settlement Period as soon as reasonably practicable after Gate Closure for, and in any event not later than the end of, such Settlement Period. This is so BSAD can be used in the BMRA's calculation of an indicative cashout price within 15 minutes of the end of a Settlement Period.

The BSC also requires the Transmission Company to submit the actual BSAD the following day. This is known in the BSAD Methodology Statement as "post event re-submission". This post event re-submission ensures that the SAA's calculation of System Prices uses the actual volume(s) of BSAD when calculating a final cashout price.

The BSAD Methodology Statement is owned by National Grid, and may only be modified in accordance with the processes set out in Standard Condition C16 of the Transmission Licence. National Grid is required to annually consult on the C16 statements, which includes the BSAD Methodology Statement.

National Grid C16 Annual Consultation

On 28 January 2016 National Grid published its consultation on changes arising from its Transmission Licence Condition C16 review of its C16 Statements. This includes changes to the BSAD Methodology Statement. The deadline for responses to the consultation was 25 February 2016.

Non-Balancing Mechanism Short Term Operating Reserve (NON-BM STOR)

Non-BM STOR is a STOR instruction by the Transmission Company issued outside of the BM in order to increase generation or reduce demand.

Withdrawn Modification P334

The P335 Proposer previously raised Modification [P334 'Inclusion of Non-BM STOR costs and volumes into the cashout price in time for publication after the end of the Settlement Period'](#). The P334 IWA recommended that P334 be sent to the Report Phase with an initial recommendation to reject, and though the P334 Modification Proposal was presented to the Panel the Proposer decided to withdraw P334 before the Panel decided how to progress it. P335 was therefore raised to address the same underlying issues as P334 (as

contended by the Proposer) but with a more effective solution. That is, rather than focusing on a best estimate, P335 intends to require the reporting of actual Non-BM STOR.

Current Arrangements

Initial Cash-out price

The BMRA calculates and publishes an indicative cashout price for every Settlement Period based on the data available to it at the time. This initial price is replaced by an improved cashout price that contains more accurate volumes and data five Working Days later, as part of the Initial Interim (II) Settlement Run.

The initial estimate of BSAD from the Transmission Company (by the end of the Settlement Period) is used in the BMRA's calculation of the initial cashout price. Information in the revised BSAD is used in the II Settlement Run cashout price five Working Days later.

The costs and volumes of non-BM STOR actions are reported as BSAD. The BSAD Methodology Statement¹ does not specify when non-BM STOR must be reported as BSAD or treated in a particular way (i.e. unlike Demand Side Balancing Reserve² and certain other Balancing Services). The costs and volumes of non-BM STOR actions may therefore be included in both the initial and revised submissions of BSAD to the extent that the Transmission Company is able to.

In practice the Transmission Company reports non-BM STOR as part of its post event re-submission of BSAD. This is because the Transmission Company reports BSAD as soon as possible after Gate Closure (in accordance with BSC Section Q6.3.1(a)(ii)) which does not allow time to report non-BM STOR for use by the BMRA. That is, non-BM STOR is typically dispatched after Gate Closure and therefore after the Transmission Company has reported its estimate of BSAD for the SP.

BSC Modification Proposal [P333 'Inclusion of DSBR volumes into the cashout price in time for publication after the end of the Settlement Period'](#) proposes earlier reporting of DSBR volumes in time for inclusion in the published indicative price soon after each Settlement Period, in a similar manner to this proposal P335 for non-BM STOR. It is being assessed in parallel with this proposal P335.

What is the issue?

The Proposer notes that cashout is meant to provide the principal incentive for demand and supply to balance in the short term. The Proposer believes that to provide this incentive, cash-out prices need to be accurate in the short term in order to encourage efficient short term decision making.

The Transmission Company is required to submit an estimate of BSAD as soon as reasonably practicable after Gate Closure, and in practice reports BSAD very shortly after Gate Closure. The Proposer notes that the Transmission Company typically dispatches non-BM STOR after Gate Closure, and therefore data relating to it cannot be submitted until the next day, in the revised BSAD.

¹ BSAD Methodology Statement v12, effective 5 November 2015, available on the [Transmission Licence C16 Statements page](#) of the National Grid website.

² The BSAD Methodology Statement specifies that Demand Side Balancing Reserve (DSBR) will not be included in the initial estimate; DSBR volumes are included in the post event re-submission BSAD issued the next day.

The Proposer contends that delay in the inclusion of non-BM-STOR can result in both a change in the direction of the NIV, from long to short, and a change in the cashout price, noting the current dispatch volumes of up to 300MWh of non-BM STOR.

The Proposer contends that the cashout price published after the end of a Settlement Period cannot be relied upon because it may change between the indicative price calculation and the II Settlement Run calculation, and that delay in the inclusion of non-BM STOR costs and volumes can cause such change, and that this unreliability reduces the incentive to balance and can lead to sub-optimal trading decisions being made.

Proposed solution

At present the BSC requires the Transmission Company to submit its estimate of BSAD for a Settlement Period as soon as reasonably practicable after Gate Closure for that Settlement Period (and not later than its end). This data is included in the indicative cashout price published within 15 minutes of the end of the Settlement Period.

In order that the Transmission Company submits its estimate of BSAD as soon as reasonably practicable after Gate Closure, Non-BM STOR dispatched after Gate Closure is not included. Instead the Transmission Company reports this data the next day, which is then incorporated in the revised imbalance cashout price for the II Settlement Run, five Working Days later.

P335 seeks to implement a solution that would place a specific requirement on the Transmission Company to send an additional BSAD submission after the end of the Settlement Period (SP), to enable the inclusion of non-BM STOR costs and volumes in the indicative cashout price calculation.

Proposed solution

In the proposed solution a new BSAD file would be generated within 15 minutes of completion of each SP, to enable the inclusion of non-BM STOR costs and volumes in the indicative cashout price calculation.

The new BSAD file would contain the forward trade information, which is being sent currently, along with the Non-BM STOR instructions issued for the specific Settlement Period.

A sequential break down of the P335 solution would then be as follows:

1. Shortly after Gate Closure, National Grid sends to BMRA a BSAD file containing actions for the Settlement Period (excluding non-BM STOR). BMRA loads this and publishes the BSAD data.
2. No later than 15 minutes after the end of the SP, the Transmission Company sends an additional BSAD file that includes non-BM STOR (in addition to the previously-notified actions). BMRA loads and publishes the revised data.
3. BMRA's indicative price calculation (20 minutes after the end of the Settlement Period) automatically picks up the file from step 2.

Please note that it is believed that this modification does not require BMRA system changes. The second in-day BSAD file can be loaded into the current software, to revise the data previously held.

Legal text

Attachment A contains the proposed changes to the BSC. Changes will be needed to certain Code Subsidiary Documents. These changes have not been specified at this point. But will be provided as part of the Report Phase Consultation.

Assessment Consultation Question

Do you agree that the draft legal text and redlined changes in Attachment A deliver the intention of P335?

The Workgroup invites you to give your views using the response form in Attachment B

4 Impacts & Costs

Estimated central implementation costs of P335

This Modification will be a document-only change to update one Section of the BSC. There are no BSC system impacts and no impact on BSC Agents.

The second in-day BSAD file submitted to the BMRA can be loaded into BMRS. No system changes are required.

The central implementation costs will be approximately £240 (one ELEXON man day) to implement the relevant document changes.

Participant impacts and costs

This Modification is a Code-only change. It is only expected to impact the Transmission Company, which will need to send an additional BSAD submission within 15 minutes of completion of each SP.

The cost of implementing this solution is estimated to be in the range of £100k to £200k. A breakdown of the Transmission Company's indicative cost is provided in the table below:

Indicative Costs	Cost in £k	
	Best Case	Worst Case
Particulars		
Prestart-up analysis	10	20
IS System changes	53	74
Integration Testing and UAT	10	20
Governance and Analysis	30	60
Risk Margin	9	23
Total cost	112	197

P335 impacts

Impact on BSC Parties and Party Agents	
Party/Party Agent	Potential Impact
None identified at this time	

Impact on Transmission Company	
The Transmission Company will send an additional BSAD file.	

Impact on BSCCo	
Document changes will be implemented.	

Impact on Code

Code Section	Impact
Section Q	Changes would be required to implement this Modification.

5 Implementation

Recommended Implementation Date

The Workgroup recommends an Implementation Date for P335 of 2 November 2017.

Assessment Consultation Questions

Do you agree with the Workgroup's recommended Implementation Date?

The Workgroup invites you to give your views using the response form in Attachment B

Other solutions considered

The P335 Proposal Form identified three possible solution approaches to achieve the inclusion of non-BM STOR costs and volumes in the indicative system price. The three options were impact assessed by the Transmission Company and considered by the Workgroup.

The proposed solutions are as follows:

- a) Amend the BSC so that the Transmission Company's submission of BSAD is not required to be as soon as reasonably practicable after Gate Closure, enabling a delayed BSAD submission which would include an estimate of all BSAAs struck after Gate Closure.
- b) Require the Transmission Company to provide a further BSAD submission after Gate Closure but before the end of the SP that captures any further BSAAs taken after Gate Closure and before the end of the Settlement Period.
- c) Require the Transmission Company to publish pre-Gate Closure BSAD trades as they are struck and submit an estimate of any further BSAAs taken after Gate Closure in time for inclusion in the Indicative System Sell Price and Indicative System Buy Price.

The Workgroup meeting agreed that Option B was the preferred solution for reasons given below, and agreed for it to be progressed as the proposed solution.

Delay BSAD submission

Option A proposed to amend the BSC so that the Transmission Company would not be required to submit a BSAD file as soon as reasonable practicable after Gate Closure. The amended wording would enable a delayed BSAD submission which would include an estimate of all BSAAs struck after Gate Closure.

The Transmission Company in their impact assessment noted a new file would need to be produced for the delayed BSAD submission. The process of generating the file would be complex, as an additional task would be required to remove the existing data flow. The Transmission Company impact assessment also highlighted large system impact in delaying the submission.

The Workgroup noted that the option would not be feasible due the complexity and potential impact.

Publish pre-Gate Closure trades & estimate post-Gate closure actions

Option C proposed that the Transmission Company publish pre-Gate Closure BSAD trades as they are struck and submit an estimate of any further BSAAs taken after Gate Closure in time for inclusion in the Indicative System Sell Price and Indicative System Buy Price.

The Transmission Company in their impact assessment indicated that Option C was a variation on Option A. Option C also proposes the BSC be amended to enable a delayed BSAD submission; however the publication of the forward trades would potentially mitigate the loss of the gate closure file.

Due to the similarity between Option A and C, the impact assessment of Option C identified the same system impacts.

Further considerations

Discussion in the second Workgroup meeting focused on how to better achieve the Modification's objective of improving the accuracy of the cashout price.

The Workgroup agreed for the Transmission Company to respond to the following questions:

- How does BSAD change between submissions/ Settlement Runs?
- How does non-BM STOR volumes change between submissions?
- What other files that are included in D+1 could also be included in the 15 min submission?
- How often does BSAD change after D+1?

The Workgroup agreed that the questions were within the scope of the Modification.

In response to the Workgroup's questions, the Transmission Company representative confirmed that the electricity trade data and BM Start Up data is submitted in time for inclusion in the half hour files and consequently does not change in the final file. The Transmission Company representative indicated that the Interconnector SO-SO data is not captured in the half hour files; with less than 10% of the trades being captured initially. As such, the inclusion of Non-BM STOR in the half-hourly files would improve the accuracy of cashout. However, the Interconnector SO-SO data would remain absent from the submission.

The Transmission Company representative confirmed that after the final file submission there is the possibility of changing data, there may be slight changes to NBM-STOR but these are not likely to be material. There may also be changes to interconnector data, the majority would not be material but for occasional settlement periods there may be material changes.

Finally, the Transmission Company representative acknowledged that unfortunately it was not possible to obtain firm costs and implementation timescales for any other data items currently in the D+1 BSAD file (e.g. the Interconnector SO-SO data). This is due to restrictions on new EBS change requests to the supplier in order to mitigate any risks to go-live.

System Impacts

The changes proposed in P335 primarily impact National Grid's Electricity Balancing System (EBS) and Information Provisioning (IP) system.

As per the preferred option, the current process of sending the BSAD files to ELEXON just after the end of every Gate Closure would remain unchanged. Necessary development around formatting, scheduling and validations in EBS and IP systems would be implemented and tested, to re-generate the disaggregated and aggregated BSAD files with Non-BM STOR costs and volumes included specific to the Settlement Period, which would then be sent to ELEXON within 15 minutes of completion of the Settlement Period.

Due to the changes to the EBS System, the Transmission Company recommended that the proposed solution be implemented in the November 2017 release. This implementation date would provide enough time to develop and test the solution after EBS go-live, if a decision is received, giving the Transmission Company sufficient notice.

7 Workgroup's Initial Conclusions

The majority of the Workgroup agreed that P335 would overall better facilitate the Applicable BSC Objectives compared with the existing baseline.

The following table contains the Workgroup's final views against each of the Applicable BSC Objectives.

Does P333 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views ³
(a)	<ul style="list-style-type: none"> Neutral – No Impact. 	<ul style="list-style-type: none"> Neutral (unanimous) – as Proposer.
(b)	<ul style="list-style-type: none"> Yes – as by reducing the actions that the System Operator has to take after Gate Closure to balance the System, therefore, facilitating the efficient, economic and co-ordinated operation of the GB Transmission System. 	<ul style="list-style-type: none"> Yes (unanimous) – as Proposer
(c)	<ul style="list-style-type: none"> Yes – as the whole market would have access to the same information. Also, the current arrangements could disadvantage smaller players because they may have less resource to devote to predicting the impact that non-BM STOR will have on the cashout price. 	<ul style="list-style-type: none"> Yes (unanimous) – As Proposer.
(d)	<ul style="list-style-type: none"> Yes – as it would reduce the incidence of cashout price changes and believes this would promote greater efficiency in the implementation and administration of the balancing and settlement arrangements. 	<ul style="list-style-type: none"> Yes (majority) – As Proposer Neutral (minority – two) – as greater accuracy in the cashout price through the provision of further information.
(e)	<ul style="list-style-type: none"> Neutral – No Impact. 	<ul style="list-style-type: none"> Neutral (unanimous) – as Proposer
(f)	<ul style="list-style-type: none"> Neutral – No Impact. 	<ul style="list-style-type: none"> Neutral (unanimous) – as Proposer



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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³ Shows the different views expressed by the other Workgroup members – not all members necessarily agree with all of these views.

Assessment Consultation Question

Do you agree with the Workgroup’s initial majority view that P335 does better facilitate the Applicable BSC Objectives than the current baseline?

Do you agree with the Workgroup that there are no other potential Alternative Modifications within the scope of P335 which would better facilitate the Applicable BSC Objectives?

The Workgroup invites you to give your views using the response form in Attachment B

Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P333 Terms of Reference

Is a BSC Modification the best way to achieve the aim of P335?

What is the impact of implementing P335?

What is the benefit of P335?

What changes are needed to BSC documents, systems and processes to support P335 and what are the related costs and lead times?

Are there any Alternative Modifications?

Does P335 better facilitate the Applicable BSC Objectives than the current baseline?

Assessment Procedure timetable

P335 Assessment Timetable

Event	Date
Panel submits P333 to Assessment Procedure	11 Feb 16
Workgroup Meeting 1	23 Mar 16
Workgroup Meeting 2	18 Apr 16
Workgroup Meeting 3	25 May 16
Assessment Procedure Consultation	6 Jun 16 – 24 Jun 16
Workgroup Meeting 4	TBC. 28 Jun/ 29 Jun 16
Panel considers Workgroup's Assessment Report	14 Jul 16

Workgroup membership and attendance

P335 Workgroup Attendance				
Members				
Simon Fox-Mella	ELEXON (<i>Chair</i>)	✓	✓	✓
Jemma Williams	ELEXON (<i>Lead Analyst</i>)	✓	✓	✓
Libby Glazebrook	ENGIE (<i>Proposer</i>)	✓	✓	✓
Lisa Waters	Waters Wye Associates	✓	✓	✓
James Anderson	Scottish Power	✓	✓	✓
Bill Reed	RWE	✓	✓	✓
Jonathan Davison	Cornwall Energy	☎	✓	✗
Andy Colley	SSE	✓	✓	✓
Attendees				
John Lucas	ELEXON (<i>Design Authority</i>)	✓	✓	✓
Geoff Norman	ELEXON (<i>Lead Lawyer</i>)	✗	✓	✓
Emma Burns	ELEXON (<i>Market Analysis</i>)	✓	✓	✓
Jonathan Whiting	Ofgem	✓	✓	✓
Alex Haffner	National Grid	✓	✓	✗
Tony Bowes	National Grid	✓	✓	✗
Rituraj Saikia	National Grid	✓	✗	✓
Tariq Hakeem	National Grid	✓	✓	✓
John Mansi	National Grid	✗	✓	✗
Ajilesh Thayath	National Grid	✗	✓	✓
Aily Armour-Biggs	Global Energy Advisory	✗	✗	☎

Appendix 2: Glossary & References

Acronyms

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

Acronym	
Acronym	Definition
BM	Balancing Mechanism
BMRA	Balancing Mechanism Reporting Agent
BPA	Buy Price Adjuster
BSAA	Balancing Services Adjustment Actions
BSAD	Balancing Services Adjustment Data
BSASS	Balancing Services Adjustment Actions
BSC	Balancing and Settlement Code
II	Interim Information
NIV	Net Imbalance Volume
SAA	Settlement Administration Agent
SO	System Operator
SP	Settlement Period
SPA	Sell Price Adjuster
STOR	Short Term Operating Reserve

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
4	P334 page on the ELEXON website	https://www.elexon.co.uk/mod-proposal/p334/
5	P333 page on the ELEXON website	https://www.elexon.co.uk/mod-proposal/p333/