Issue 83 'Ensuring that the Buy Price Price Adjustment reflects all additional balancing costs incurred by NGESO'

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About This Document

This document is the Issue 83 Group's Report to the BSC Panel. Elexon will table this report at the Panel's meeting on 8 April 2020.

There are two parts to this document:

- This is the main document. It provides details of the Issue Group's discussions and proposed solutions to the highlighted issue and contains details of the Workgroup's membership.
- Attachment A contains the Issue 83 Proposal Form

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1 Conclusions and summary

Conclusions

The Proposer and Issue Group do not recommend any changes to the BSC are progressed.

Issue 83 'Ensuring that the Buy Price Price Adjustment reflects all additional balancing costs incurred by NGESO' was raised to explore whether the Buy Price Price Adjustment (BPA) continues to provide appropriate and proportional pricing signals. The Issue Group expressed differing views on how availability fees should be reflected in cash out.

The Issue Group note that though the BSC was used to explore the Issue, the governance of the BPA sits under the Grid Code and the C16 Statement and is defined in the Balancing Services Adjustment Data (BSAD) Methodology Statement. Any potential changes to how the BPA is calculated could be best made through this route.

The Issue Group concluded that the current form of the BPA is not a perfect incentive, but was unsure what changes could be progressed to make improvements outside of a wider holistic review of pricing. The Issue Group considered that if any future changes are made to the BPA, it should be considered as part of a wider review of market dynamics. As such, the Issue Group do not recommend that changes are progressed as a result of Issue 83.

NGESO had started such wider review as part of BSC Modification proposal P410 'Changing imbalance price calculations to comply with the Imbalance Settlement Harmonisation regulations', which also included some considerations on the BPA. The Modification is expected to be withdrawn as NGESO intends to resubmit the Imbalance Settlement Harmonisation proposal to Ofgem to make it consistent with the BSC (i.e. no change needed).

The BPA is not contrary to the wording of the Electricity Balancing Guideline (EBGL) and Imbalance Settlement Harmonisation Proposal (ISHP) and so does not need to change to remain a compliant component of Imbalance Pricing.

Furthermore, the recent Reserve Reform launched by NGESO and the move towards day-ahead procurement of reserve services may change availability payment arrangements.

Background

Issue 83 'Ensuring that the Buy Price Price Adjustment reflects all additional balancing costs incurred by NGESO' was raised by Sembcorp Utilities (UK) on 11 October 2019. The Issue was raised to investigate the enduring suitability and acceptability of the BPA in light of the draft ISHP being considered under the EBGL.

The defect that Issue 83 investigated was identified by the P371 'Inclusion of non-BM Fast Reserve actions into the Imbalance Price calculation' Workgroup.

The Issue group held two meetings before it was put on hold to allow P410 'Changing imbalance price calculations to comply with the Imbalance Settlement Harmonisation regulations' to implement the approved ISHP into the BSC. Following the decision that P410, was no longer needed and would not progress, the Issue 83 Proposer did not believe there was sufficient value to be gained from continuing discussions under Issue 83. They did not see continued discussions under Issue 83 as a priority in light of changing industry priorities. They also noted that National Grid Electricity System Operator's (NGESO's) agreement to aim to provide additional clarity in the data it publishes would provide greater clarity and realise some of the benefits that Issue 83 sought to achieve.

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2 Background

Issue 83 background

Issue 83 was raised by Sembcorp Utilities (UK) to consider whether the BPA continues to be a reflective and proportionate component of the Imbalance Price calculation. This follows Workgroup discussions had under P371 'Inclusion of non-BM Fast Reserve actions into the Imbalance Price calculation', which included payments for Fast Reserve actions taken outside the BM in the cash out calculations. The P371 Workgroup considered the BPA and whether it could be the appropriate place to reflect some NGESO costs. The P371 Workgroup noted differing views on the effectiveness of the BPA, but did not consider a review under the scope of the Modification.

History of the BPA

The BPA was introduced by P008 'Introduction Of A Price Adjuster To Reflect Option Fees For Balancing Services Contracts In Setting System Buy Price And System Sell Price' in 2001 with the aim of smoothing the effect of availability fees by smearing them across the availability period rather than the utilisation period. At the time, Ofgem clarified its position that 'all the costs of energy balancing should be targeted on participants who are out of energy balance whilst the costs of system balancing should be recovered from all participants'.

Since 2001, there have been other instances of Ofgem seeking to put a higher value on capacity when the system is tight, such as the 2014 Electricity Balancing Significant Code Review (SCR). This led to P305 'Electricity Balancing Significant Code Review Developments' which extended the Imbalance Price calculation to include Short Term Operating Reserve (STOR) actions. P305 removed availability fees associated with STOR from the BPA, as these costs were not properly reflecting the usage peaks and troughs which was resulting in incorrect pricing signals. P305 sought to reflect the value of capacity at the time of scarcity, whereas the BPA simply focussed on payments made for availability.

The Issue 83 Proposer believes that if P305 changes were limited to STOR because this was considered the main source of reserve, then since then, the GB balancing system has undergone a range of deep changes, including recent rationalisation and harmonisation of Reserve products, and so this should be reviewed.

Challenges to be explored under Issue 83

The Issue 83 proposer believes that the functionality of the BPA should be considered in light of market changes since its introduction. In particular, they have identified two key concerns.

Costs that are not reflected in the BPA

Non-Tendered Fast Reserve actions represent the lion share of the costs paid by NGESO for Reserve products and these are not captured in the calculation of the cash-out price.

NGESO spent between £4m and £6m/month on Hydro Spin-Gen Fast Reserve in 2018-19 for availability only (excluding utilisation via offers and bids), yet no data is provided on the prices or the volumes awarded to the individual service providers.

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In addition to sending incorrect messages to the industry and distorting the market signal, this lack of transparency impacts the behaviour of market participants, with overall effects to the costs to end consumers.

Some units are allowed to be in receipt of STOR and Spin-Gen payments simultaneously

The Proposer believes that a small number of units receive both STOR and Spin-Gen payments meaning that they are allowed to price their Reserve actions in a way that distorts competition. This contributes to impact the behaviour of market participants, with overall effects to the costs to end consumers. To be consistent with the work undertaken by P305, these actions should be captured in the calculation of the cash-out price to reflect the real value of scarcity at time of system stress.

Desired outcomes

Issue 83 was raised to:

- assess what components should be reflected in the BPA: the BSAD states that the BPA may include, but is not limited to BM Start Up and Regulating Reserve. This implies that there may be other products that should be reflected in the BPA, which should be clarified;
- determine whether the BPA needs to be adjusted/reviewed as a result of ISH, assess what components of the BPA can continue to be used in the Imbalance Price calculation to ensure that it continues to be reflective of the actions taken by NGESO; and
- assess how the components of the BPA can continue to be used in the calculation of the Imbalance Price: e.g. as additive components; through a separate Settlement mechanism; through a separate existing mechanism such as Balancing Services Use of System (BSUoS) charges.

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Other regulatory factors affecting the BPA

The Proposer outlined the perceived defect and provided their rationale for exploring the issue. They noted that the Imbalance Settlement Harmonisation methodology required under the EBGL may have consequential impacts on the BPA, but believed that reasonable assumptions could be made to allow the Issue Group to consider the defect. Assumptions made under Issue 83 were:

- that NGESO will continue to pay options fees;
- that Electricity Balancing Guidelines won't preclude using the BPA as an additive component of the Imbalance Price; and
- payments for 'spin gen' and availability fees will continue to be used in bilateral contracts between NGESO and service providers.

Elexon noted that the governance of calculating the BPA was contained in the Balancing Services Adjustment Data (BSAD) methodology, rather than the BSC, but that a BSC Issue provided a formal framework for the defect to be considered.

Components in the BPA

The largest factor contributing to the value of the BPA is BM warm up. Other components include firm regulating reserve and forward contract option fees. NGESO clarified that the BPA was not limited to these products, and noted its intent to publish a product mapping. Members believed this would help map data published by NGESO and provide clarity and transparency to industry parties.

The Calculation of the BPA is set out in the BSAD Methodology statement. The current methodology includes costs incurred for the following products:

- Firm Regulating Reserve options fees;
- Forward Contract options fees; and
- BM Start Up costs.

Characteristics of 'spin gen'

The Issue Group discussed 'spin gen', including the characteristics and whether it was comparable to BM warm up. Arguments in favour of comparison were that spin gen providers received payment to allow active energy to be quickly delivered when needed. This was countered by an argument that payments were made in the form of commercial contracts to synchronise assets with the system, and that this didn't impact the assets ability to be instructed within normal BM timescales. Some Issue Group members questioned whether asset synchronisation should count as 'getting the asset in a usable state'. The Issue group also noted many other commercial services used by NGESO were not included in pricing calculations. One example being localised balancing services used by Distributors. Members believed that if spin gen were to be included, the argument could equally apply to numerous other services to also be included in the BPA. Any assessment of this should be led by guidance and analysis from NGESO.

What is BM warm up?

BM warm up is used to prepare thermal generation assets so that they can be dispatched in line with the requirements of the BM.

What is firm regulating reserve?

Regulating reserve is used to cover for short-term generation losses (i.e. post Gate Closure) and demand forecasting error. It is mostly provided through the BM although, ancillary service contracts may be put in place for the provision of this reserve service.

What are forward contract option fees?

Forward Contracts are bilateral contracts used by NGESO to provide balancing services that are not met by standard balancing products. NGESO trades are reported on its data portal.

What is 'spin gen'?

Spin gen is a service provided to the NETSO. It consists of compressed air being passed through turbines to keep them in motion. This allows active energy to be delivered in shorter timescales to meet system needs.

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NGESO noted the System Needs and Product Strategy (SNAPS) report which showed an overview of costs paid for Fast Reserve services. They believed that categorising spin gen as Fast Reserve could be misleading and agreed that it should review how services it procured were categorised in future reporting. This would improve the quality of data available to industry and increase the transparency of the actions it takes to balance the system. NGESO has since published a roadmap of frequency response and reserve services.

Intent of the BPA

The Issue Group considered the intent of the BPA. The BPA was introduced by P008 'Introduction Of A Price Adjuster To Reflect Option Fees For Balancing Services Contracts In Setting System Buy Price And System Sell Price' with the aim of smoothing the effect of availability fees by smearing them across the availability period rather than the utilisation period.

P305 'Electricity Balancing Significant Code Review Developments' removed availability fees associated with Short Term Operating Reserve (STOR) from the BPA, as these costs were not properly reflecting the usage peaks and troughs which was resulting in incorrect pricing signals. P305 sought to reflect the value of capacity at the time of scarcity, whereas the BPA simply focussed on payments made for availability.

The Issue group agreed that the BPA should reflect energy balancing needs and that actions and so system balancing actions should not be reflected. The Issue Group noted that the smearing of availability fees was a compromise, and that if energy was delivered for a short time, but fees were spread over a long period, this could also cause misleading pricing signals.

Members noted that the cost to NGESO for balancing the system was recovered through BSUoS charges, and that Imbalance Pricing was designed to send market signals and incentivise Parties to balance their positions. Additionally since the introduction of the BPA, the marginal volume used to calculate the imbalance price had reduced from 500MWh to 1 MWh, and so members suggested that the costs in the BPA were less likely to relate to a price setting action. They therefore believed that the BPA could be considered to artificially inflate the price where it did not relate to a marginal action. This view was countered by the argument that if an asset was paid to warm then it could bid lower than would otherwise be the case. This may affect the value of the actions taken by NGESO.

The Issue Group considered that where an asset had been paid to warm, but was not called on, then this shouldn't be considered energy balancing purposes as it was not used to solve an energy balancing issue, and so shouldn't influence the price. A member suggested that allocating BM Start Up costs to price of the BM Unit action only when it was instructed for energy balancing would provide a mechanism to feed associated costs into the Imbalance Price. However, this could lead to costs being paid over a long availability window being allocated to a short delivery period, which could cause steep spikes. This was something that the introduction of the BPA sought to avoid.

Members had differing views on how costs would be allocated when associated with a unit that was paid to warm for 7 hours, but only instructed in the last hour. The costs could be allocated pro-rata across the warming period or all the costs could be allocated to the delivery period, some believed this second method would create a sharper price incentive while others believed this would create artificial spikes.

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Even when the market was perfectly balanced and no energy actions were taken by NGESO, it would still need to hold reserve capacity, but the cost of this wouldn't be reflected in the Imbalance Price. The Issue group noted differing rationale between P003 'Correction Of Price Spikes Generated By De-Minimis NGC Purchases', which stated that option fees should be included in cash out prices, and P305, which removed STOR availability fees from the BPA.

Issue Group members held differing views on whether the BPA improved pricing signals. Some members agreed with the rationale for removing the BPA as they did not believe it contributed to accurate pricing signals. Some members questioned whether the value of the BPA could be improved by ensuring the right components were included, and questioned whether other services used by NGESO would affect the value of BM actions – and so be reflected in pricing calculations. Members agreed that the BPA was not a perfect solution, but that its intent was correct.

What is STOR?

STOR is procured through a competitive tender by NGESO to help it hold sufficient Reserve. STOR contract holders are paid to have available capacity in STOR windows. If this capacity is called upon, they are paid utilisation fees.

Future of the BPA

Many Issue Group members agreed with rationale for removing the BPA. One member was unconvinced that that BPA improved the signal sent by the Imbalance Price. Another member commented that to ensure the BPA was improving market signals, you first needed to make sure all relevant components were included, and questioned whether there were services not reflected in the BPA that had the potential to affect the value of actions in the BM.

A member commented that while it wasn't a perfect solution, they believed the BPA added benefit to the Imbalance Price as it ensured that bilateral costs did not reduce the Imbalance Price. The member commented that while its form may require changes, there was rationale to retain its essence.

Transparency of available data

The Issue Group noted that reserve was held to protect against intermittent generation being unable to deliver, but that technology and forecasts had improved which reduced this risk. NGESO agreed to produce a mapping of when various products would be used by the control room, with a focus on the difference between system and energy balancing actions. This mapping would improve industry visibility of the actions taken by NGESO.

Impact of EBGL requirements

The EBGL establishes the principle that predetermined prices should not be used for balancing energy activated by the System Operator. NGESO commented that the continued need to protect against intermittent generation meant that availability fees couldn't just be removed and so the question was how they should be treated and/or reflected in imbalance pricing. Elexon presented 3 options for how the BPA could remain compliant with the EBGL:

1. As an additive component, which can be used for specified reasons such as scarcity, incentivising or ensuring financial neutrality;
2. As a separate Settlement Mechanism; and

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3. Using a separate but existing mechanism, such as BSUoS. However this is not charged on a 'polluter pays' basis.

The Workgroup did not believe that option 1 should be discounted, and believed that there were arguments for including the BPA as an incentivising component. They argued that as an island, the characteristics of the GB system meant that more reserve capacity may be needed than for other European networks. Any payment for this capacity should be reflected in pricing to incentivise Parties to efficiently balance their positions.

The intent of the EBGL is for imbalance prices to be based on real time market conditions rather than predetermined prices. Additionally the Clean Energy Package may require a clearing price to be paid in place of bid prices. NGESO commented that this may affect the way it procured capacity. Some Issue Group members believed that if this meant assets instructed to warm, but not used were not paid for the service, there would be a market distortion. They argued that if the asset had not warmed then it couldn't have been instructed and NGESO may have taken more expensive actions in its place.

The EBGL seeks to ensure that actions properly reflect the value to the market at the time of utilisation, it therefore prohibits pre-determined prices being used in Imbalance Price calculations. This doesn't preclude availability fees being paid to service providers. The Issue group considered how these costs could continue to be reflected. Advice from Ofgem was that any solution would need to be proportional and give a clear benefit to be approved. Additionally EBGL limitations only relate to energy actions, so anything done for system reasons could continue unchanged.

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Appendix 1: Issue Group Membership

Issue Group membership and attendance

Issue 83 Group Attendance			
Name	Organisation	7 Aug 2019	11 Sep 2019
Lawrence Jones	Elexon *(Chair)*	✓	✓
Matthew Woolliscroft	Elexon *(Lead Analyst)*	✓	✓
Damian Clough	Elexon *(Design Authority)*	✓	✓
Alessandra De Zottis	Sembcorp *(Proposer)*	✓	✓
Aily Armour -Biggs	GEA	✗	☎
Andy Colley	SSE	☎	☎
Andy Russell	Engie	✗	✓
Graz Macdonald	Greenfrog	☎	☎
Jamie Webb	NGESO	✓	✓
Josh Logan	Drax	✓	✓
Kate Dooley	ESB	✗	☎
Ross Haywood	RWE	✓	✓
Sabina Chaudhary	Engie	✓	✗
Simon Lord	Engie	✓	✗
Emma Tribe	Elexon *(Market Analst)*	✓	✓
Angus Fairbairn	Elexon *(Market Analyst)*	✗	✓
Peter Frampton	Elexon *(Design Authority)*	✗	✓

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Appendix 2: Glossary & References

Acronyms

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

Acronyms	
Acronym	Definition
BPA	Buy Price Price Adjustment
ISHP	Imbalance Settlement Harmonisation Proposal *(EU methodology)*
EBGL	Electricity Balancing Guideline *(EU Energy Code)*
BM	Balancing Mechanism
NGESO	National Gris Electricity System Operator
SCR	Significant Code Review
STOR	Short Term Operating Reserve
BSAD	Balancing Services Adjustment Data
SNAPS	System Needs and Product Strategy

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
2	Issue 83 page on the BSC Website	https://www.elexon.co.uk/smg-issue/issue-83
2	BSAD Methodology Statement	https://www.nationalgrideso.com/document/110891/download
2, 3	P371 page on the BSC Website	https://www.elexon.co.uk/mod-proposal/p371/
2	P410 page on the BSC Website	https://www.elexon.co.uk/mod-proposal/p410/
3, 6	P008 page on the BSC Website	https://www.elexon.co.uk/mod-proposal/p008/
3, 6	P305 page on the BSC Website	https://www.elexon.co.uk/mod-proposal/p305
6	SNAPS report	https://www.nationalgrideso.com/document/84261/download
6	Response and Reserve Roadmap	https://www.nationalgrideso.com/document/157791/download
7	P003 on the BSC Website	https://www.elexon.co.uk/mod-proposal/p003

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