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Modification proposal:	**Balancing and Settlement Code (BSC) P304 and P314: Reduction in PAR from 500MWh to 250MWh (P304) and Reduction in PAR from 500MWh to 350MWh (P314)**		
Decision:	The Authority[1] has decided to reject these proposals[2]		
Target audience:	National Grid Electricity Transmission Plc (NGET), Parties to the BSC and other interested parties		
Date of publication:	28 October 2014	Implementation Date:	n/a

Background

On 15 May 2014 the Gas and Electricity Markets Authority (the Authority) directed[3] National Grid Electricity Transmission plc (NGET) to raise modification proposals P304 and P305[4] following the conclusion of the Electricity Balancing Significant Code Review (EBSCR). P304 was intended to be a distinct, standalone modification ahead of the full package of EBSCR reforms, which are being progressed though P305.[5]

The EBSCR was a review of the electricity balancing and cash-out arrangements in Great Britain. For any given Settlement Period (each half hour) BSC parties may trade with each other up to Gate Closure, which occurs one hour prior to that Settlement Period. After Gate Closure, the market is passed to National Grid as the System Operator (SO). The SO assesses the balance of generation and demand and takes actions to ensure that generation meets demand on a second-by-second basis.

When a party is out of balance in the same direction as the overall system (exacerbating the overall imbalance of the system) it faces the main cash-out price. This price is currently calculated as a volume weighted average cost of the top 500MWh[6] of bids or offers accepted by the SO to balance the system. This averaging results in main cash-out prices being dampened.

Cash-out prices are a key incentive on market participants to balance their positions. The EBSCR concluded that current balancing arrangements are not working as well as they could as a result of existing issues with the cash-out arrangements. This includes a lack of comprehensive and marginal cost reflectivity in the calculation of cash-out prices. The impact of this is to undermine efficiency in balancing and security of supply.

The publication of the EBSCR Final Policy Decision[7] and Directions to NGET signalled the end of the EBSCR and initiated an industry-led process to implement the conclusions via the Balancing and Settlement Code (BSC) modification process.

[1] The terms 'the Authority', 'Ofgem' and 'we' are used interchangeably in this document. Ofgem is the Office of the Gas and Electricity Markets Authority.
[2] This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.
[3] https://www.ofgem.gov.uk/publications-and-updates/direction-national-grid-electricity-transmission-plc-relation-electricity-balancing-significant-code-review
[4] http://www.elexon.co.uk/mod-proposal/p305/
[5] Today we have also published an Open Letter reiterating our commitment to the package of EBSCR reforms being progressed through P305: https://www.ofgem.gov.uk/publications-and-updates/statement-our-commitment-electricity-balancing-significant-code-review-reforms
[6] This is known as a 'Price Average Reference' of 500MWh, or PAR500MWh for short.
[7] https://www.ofgem.gov.uk/publications-and-updates/electricity-balancing-significant-code-review-final-policy-decision

The modification proposal

Modification proposal P304 was raised by NGET to reduce the Price Average Reference (PAR)[8] from 500MWh to 250MWh for implementation on 31 October 2014. Modification P314 was raised on 5 September 2014 by First Utility to achieve the same objective as P304 but also seeking to balance risk for market participants. This proposal was granted urgent status[9] meaning that the Authority could consider these related proposals at the same time. Modification proposal P314 (P314 Proposed) proposes to reduce PAR from 500MWh to 350MWh, on 2 January 2014. The P314 workgroup raised an alternative solution (P314 Alternative) which proposes to reduce PAR from 500MWh to 350MWh on 31 October 2014.

These proposals aim to improve the current arrangements by strengthening the cash-out price signals for the period (in particular winter 2014/15) in advance of the introduction of arrangements proposed in P305 for winter 2015/16. They also aim to help parties to transition to more marginal pricing, as requested by some parties.[10]

BSC Panel[11] recommendation

At the 9 October 2014 BSC Panel meeting, the BSC Panel held its final discussions on P304, P314 Proposed and P314 Alternative. A majority of Panel members agreed that the solutions would better facilitate the achievement of applicable BSC objective b) *'the efficient, economic and co-ordinated operation of the national electricity transmission system'*. However, a majority also considered that the solutions would not better facilitate the achievement of objective 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*', and objective d) '*promoting efficiency in the implementation and administration of the balancing and settlement arrangements*'. The Panel recommended (a majority of 5 against a minority of 3) to the Authority that all three solutions should not be approved on the grounds they would not, on balance, further the applicable BSC objectives.

Our decision

We have considered the issues raised by the modification proposals and the Final Modification Reports (FMRs) dated 10 October 2014. We have considered and taken into account the responses to Elexon's[12] impact assessment and consultation which are attached to the FMRs.[13]

We have concluded that implementation of modification proposals P304, P314 Proposed and P314 Alternative will not better facilitate the achievement of the applicable objectives of the BSC.[14]

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[8] BSC Section T 1.10
[9] http://www.elexon.co.uk/wp-content/uploads/2014/09/P314-urgency-letter.pdf
[10] See Proposals for P304 at http://www.elexon.co.uk/mod-proposal/p304/ and P314 at http://www.elexon.co.uk/mod-proposal/p314.
[11] The BSC Panel is established and constituted pursuant to and in accordance with Section B of the BSC.
[12] The role and powers, functions and responsibilities of Elexon are set out in Section C of the BSC.
[13] BSC modification proposals, modification reports and representations can be viewed on the Elexon website at www.elexon.com
[14] As set out in Standard Condition C3(3) of NGET's Transmission Licence, see: http://epr.ofgem.gov.uk/index.php?pk=folder380751

Reasons for our decision

We consider that the arguments for and against the proposed modifications are largely the same for P304 and P314. We have therefore considered P304 and P314 (Proposed and Alternative) together. In this respect we have concluded that:

- the effects of the proposed modifications are finely balanced, modest at most, and may range from slightly positive to slightly negative;
- there is a modest positive effect against applicable objective b);
- there is a modest negative impact against applicable objective c);
- there is no impact against objectives a), d), e) and f);
- P304 and P314 (Proposed and Alternative) would not better facilitate the BSC objectives as a whole.

We have therefore decided that all three solutions should be rejected on the grounds they do not, on balance, further the applicable BSC objectives.

Below we present further detail on our assessment against each pertinent objective.

BSC objective b) the efficient, economic and co-ordinated operation of the national electricity transmission system

Workgroup, respondents and BSC Panel's views

The proposers of P304 and P314 considered that these modifications would make the main imbalance price signal more cost reflective, strengthening the incentive on market participants to balance their positions ahead of Gate Closure. This would reduce the balancing actions required to be taken by the SO, improving balancing efficiency and therefore better facilitating objective b). The proposer of P314 additionally considered that moving to PAR 350 in January 2015, instead of PAR 250 at the end of October 2014, would provide parties with the time required to prepare for lower PAR values and change behaviours accordingly.

A number of opposing views were expressed by the workgroup and the respondents to the P304 and P314 consultations. Many agreed with the proposers that these modifications would strengthen incentives on parties to balance, reducing balancing costs for the SO. However, several noted that this positive impact could be relatively small, with some considering it negligible.

A few respondents noted that calculating cash-out prices using an average of SO balancing actions dampens the signals provided to the market of the value of flexible capacity. They believed that P304 and P314 would more accurately align the incentives to provide and invest in flexible capacity with the value this capacity provides to the market, resulting in more efficient decision making by market participants.

Several respondents believed the modifications would be detrimental against objective b). They considered that sharpening the cash-out price would incentivise parties to adopt a 'longer' position at Gate Closure in order to avoid exposure to a more marginal System Buy Price (SBP) when the system is short. In their view, this would result in inefficient costs which are ultimately passed onto consumers.

A majority of BSC Panel members considered that P304 and P314 both better facilitate objective b), for the reasons put forward by the proposers. However, some Panel members disagreed that they would better facilitate this objective. They either considered the change too marginal to deliver any measurable improvement in efficiency

or agreed with the view that P304 would reduce efficiency on the grounds it would incentivise parties to go longer.

Our views and rationale

We consider that both P304 and P314 have a marginal positive impact when considered against relevant objective b).

Cash-out prices impact on the trading, operational and investment decisions made by participants in the electricity market. These decisions will impact on the overall costs involved in providing electricity to consumers. P304 and P314 both marginally sharpen cash-out price signals. We summarise below our views on the impact of marginally sharpening the cash-out signal against this objective in three separate areas.

Balancing efficiency

Both the SO and market participants incur costs in energy balancing. Market participants incur costs in managing their imbalance risk and in the level to which they hedge this risk before Gate Closure. The SO incurs costs through taking balancing actions in real time. The overall efficiency of the balancing arrangements reflects both of these costs which are passed through to consumers.

In order to incentivise parties to behave in a way that maximises the overall efficiency of balancing, the cash-out price should as far as possible reflect the costs to the consumer of the SO's balancing actions at the margin. At this point the cost of an additional unit of imbalance to parties reflects the cost to the SO of resolving that unit of imbalance. This sends a signal to parties to explore, create and exhaust all available balancing opportunities which can be taken more efficiently than the SO.

Cash-out prices are currently calculated using an average of the SO's 500MWh most expensive energy balancing actions. This dampens prices particularly during tight periods. Prices also do not reflect the cost to the consumer of some actions entirely (for example, Demand Control actions). Under the current arrangements parties are therefore unlikely to exhaust all available efficient balancing opportunities during tight periods, resulting in unnecessary costs for consumers. Both modifications aim to make cash-out prices incrementally more marginal. They should therefore incentivise parties to better optimise their short-term trading behaviour during tight periods compared to the baseline.

We disagree with the view put forward by some respondents, workgroup members and BSC Panel members that P304 and P314 would necessarily reduce efficiency as a result of an increased incentive to go longer. Under more marginal cash-out prices, market participants should better internalise the costs to the SO and consumers of contributing to the system imbalance during system tightness. It may be the case that some parties ultimately adopt a longer position during tight periods in order to mitigate the risk of facing a sharper SBP during these periods. However, this could be a rational and efficient market response. In particular, it would reflect the greater costs to consumers of SO energy balancing during system tightness compared to the cost of parties purchasing additional electricity in the wholesale market.

However, we recognise that dampened prices during periods of tightness is not the only deficiency in the current cash-out calculation. A dual cash-out price also inhibits cost-reflectivity, as the reverse price[15] does not reflect the costs avoided by the SO due to an

[15] This is the cash-out price parties face on their imbalances in the opposite direction to the system.

opposing imbalance. Our analysis during the EBSCR has suggested that this could lead to over-incentives to balance during normal periods. This could lead to inefficient over-investment in balancing improvements (such as forecasting and reliability) in the long run.[16]

Sharpening the cash-out price in the absence of a single price would increase the spread between the main and reverse price. It could therefore arguably lead to even greater over-incentives to balance during normal, non-tight periods and therefore over-investment in day-to-day balancing solutions in the long term. This could counter the positive effect from more marginal prices on efficiency during system tightness.

However, we consider that this increased inefficiency is unlikely to materialise in practice for two reasons. Firstly, as described below, the impact of these modifications is marginal and negligible during the majority of non-tight periods. It is therefore unlikely to change decisions on implementing solutions to improve balancing in every period. Secondly, any decisions as a result of P304 or P314 would likely be over-taken by decisions emerging from expected future changes to the cash-out arrangements under P305, where a single cash-out price is due to be introduced.

The historical analysis carried out by Elexon for the P304 workgroup to assess the impacts of PAR changes showed little or no change in the cash-out price in the majority of settlement periods. The more significant changes tended to occur when the system was more stressed.[17]

We note that the historical analysis has limitations. Importantly, it does not account for behavioural change, which would be expected following a change in price signals. This could mean the analysis overstates the impact on prices as behaviour change should temper price impacts. Some parties have also argued that the margins over the last four years may not be representative of the potential margins going forward, and that the impacts are therefore understated. However, even with these caveats, we consider that the analysis is able to give a good indication of the limits of likely price impacts.

We consider that the existing analysis backs up the theory that under P304, cash-out prices should be more reactive to system scarcity. This would send improved signals to the market to change behaviour to avoid situations where the SO has to take actions which are relatively more expensive than the cost to parties (eg, when the system is short and tight). It is also unlikely to send a signal to parties to significantly alter their approach to balancing behaviour across all periods. Nevertheless, analysis suggests that any positive impact on balancing efficiency is likely to be limited.

Some parties, in particular independent suppliers, have argued that even if the price signals are theoretically improved, there is nothing they can do to react to them in practice, especially in time for this winter. This is because they have already finalised their trading and hedging strategies. As a result, no gain in efficiency is possible.

We consider trading in the intraday market to cover imbalances is part of business as usual for the majority of BSC parties. The impact of P304 and P314 should be to incentivise parties to pay a higher price for electricity to resolve imbalances when margins tighten. This should lead to purchases of additional volumes of electricity in the intraday market where this is more cost effective than leaving an imbalance to the SO.

[16] See our EBSCR Final Policy Decision Impact Assessment: https://www.ofgem.gov.uk/ofgem-publications/87787/electricitybalancingsignificantcodereview-finalpolicydecisionimpactassessment.pdf
[17] See parts D to F of the P304 FMR: http://www.elexon.co.uk/wp-content/uploads/2014/05/P304-Final-Modification-Report-.zip

We consider most parties should be able to react to these modifications by changing their short term trading behaviour, thus driving a more efficient outcome.

On the balance of all these arguments, we consider that P304 would deliver a marginal improvement in balancing efficiency before the likely introduction of P305 next winter.

Wider market efficiency and security of supply

Cash-out signals affect market participants' trading behaviour and therefore wholesale electricity prices. They therefore affect revenue expectations for providers of flexibility. Dampened cash-out prices have long been identified as a key contributor to the 'missing money' problem. This is that market prices do not currently reflect the value consumers place on flexible capacity, leading to inefficient under-investment in flexible capacity in the long run. This undermines the ability of the electricity market to provide an efficient level of security of supply.

Dampened prices which do not respond appropriately to system tightness also limit the extent to which market participants will invest and innovate in flexible solutions (such as storage and Demand Side Response) and the extent to which interconnectors import during tight margins. Over time, this leads to inefficiencies in the wholesale market as decisions will not fully take into account the value of this flexibility to consumers. This will be particularly relevant as the share of intermittency in the system increases and the challenges and costs involved with balancing the system increase.

P304 and P314 are a step in the right direction in terms of reflecting the value of flexibility into electricity prices. However, they are only a marginal step. Cash-out prices would remain highly averaged, the cost of consumer interruption would not be included and reserve costs would still be inaccurately reflected. To this extent, it is probably unlikely to encourage a significant improvement in investment and operation decisions in the future.

In addition, as discussed below, these modifications were not intended to be a long term solution. Instead, they were meant to be a stepping stone to help parties prepare for more fundamental changes to the cash-out arrangements that are proposed for introduction next winter under P305. It is unlikely that P304 and P314 would deliver a material security of supply or wider market efficiency benefit before this date, due to the timescales involved.

Overall, we consider there is a broadly neutral impact on objective b) in this area.

Efficiency gains from a step change to larger reform

P304 was always intended to facilitate an additional step change to a marginal cash-out price, which aimed to further accommodate requests by market participants for a phased approach. The full package of EBSCR reforms is under discussion under BSC modification P305. We consider that a marginal cash-out price, combined with the other elements of the EBSCR reforms, will be vital for incentivising flexibility and spurring market efficiency in the future. A primary intention behind P304 (and then P314) was to help parties prepare for the more marginal prices proposed by P305[18], in particular helping to ensure a more efficient response by the market.

Feedback from the broader industry during the modification process has suggested that the benefits of this step are modest at best. Whilst some supported the step, a number of parties have argued that the impacts of bringing forward P304 and P314 are so small,

[18] Noting there are two solutions – Proposed and Alternative – for P305.

that the learning benefits could be negligible. Others have suggested that bringing forward a more marginal cash-out price without a single cash-out price does not provide an appropriate transitional step to the full EBSCR reforms, particularly in the timescales involved. Overall, acknowledging this feedback, we consider this step change may present only a modest benefit against objective b).

BSC objective 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

Workgroup, respondents and BSC Panel's views

Throughout the modification process a range of views was presented in consideration of this objective. A majority of the BSC Panel were of the view that P304 and P314 would have disproportionate impacts on independent suppliers. Views expressed by parties throughout the process have also included that insufficient time in advance of (winter) implementation limits scope for behavioural response and thereby aggravates impacts, and that making the main price more marginal under dual price arrangements enhances the materiality of the dual price distortion. Some Panel members also considered that there was insufficient time to determine distributional impacts.

Views in support of change expressed by the Panel when considering this objective included that reform encourages flexible capacity (including prospective entrants), and that it supports liquidity by incentivising market participants to trade in order to balance their positions.

Our views and rationale

We have concluded that P304 and P314 have a marginally negative effect against applicable objective c).

Ultimately effective competition is served by reflecting the SO's energy balancing costs comprehensively and at the margin in cash-out prices. In this light, P304 and P314 are a modest step in the right direction towards cost-reflectivity of the main imbalance price. P304 and P314 ensure a party's competitiveness better reflects the value to the consumer of that party's ability to avoid contributing to the system length. This allows parties to enjoy a competitive advantage from avoiding contributing to system length that is more closely aligned to the value their efforts deliver to the consumer. In this respect, P304 and P314 support effective competition.

In terms of impacts on liquidity, our expectation is that P304 and P314 would drive demand for liquidity in forward trading, and that Ofgem's Secure & Promote[19] reforms should enable this demand to be met. The driver of this effect would be the expectation of higher costs of driving system imbalance, and invigorated efforts by parties to trade out this enhanced risk.

We agree that by addressing missing money for providers of flexibility (existing and prospective entrants), P304 and P314 would encourage flexible capacity and therefore support effective competition. In terms of magnitude, we note however the view of a number of market participants and a BSC Panel member that impacts are likely modest.

In the presence of the dual price distortion in particular, and with legitimate concerns expressed about the very short timescales to prepare for implementation, we consider distributional impacts to have the potential to be a material consideration in assessment

[19] See https://www.ofgem.gov.uk/electricity/wholesale-market/liquidity

of whether P304 and P314 serve effective competition. The results of the historical analysis suggest that daily net impacts (ie, the worst day of the last four years) peaks for all party types at around a cost of £5/MWh, and that P304 and P314 could impact independent suppliers more on average than other groups.

The proposed short time-frame for assessment and implementation of P304 (and owing to its interactions, P314) was designed to accommodate the request of some market participants for the industry to be given the opportunity to consider a reduction in PAR in advance of this winter. Regarding concerns about insufficient time in advance of (winter) implementation and therefore limited scope for behavioural response, we acknowledge that the short timeframe between decision and implementation provides a short window for behaviour change in advance of winter 2014/15, and that the challenge this presents may be most significant for smaller parties. In particular, information that has emerged during the modification process has suggested there are legitimate questions relating to what parties – in particular small parties – can do to prepare for P304 and P314 within a time-frame of two weeks from Authority decision.

P304 and P314 expose parties to greater down-side risk – but the absence of a single cash-out price (which provides a more favourable, cost-reflective price for opposite imbalances) precludes the opportunity for parties to replenish their reserves to help manage this enhanced downside risk. We therefore acknowledge the BSC Panel view that the potential distorting effect upon competition of more marginal prices without a single price could outweigh the benefit of helping industry to transition to the new arrangements envisaged in P305. We recognise that P304 and P314 could undermine free and fair competition through the dual pricing distortion, and that the adverse effects are potentially exacerbated by the short timeframes between decision and implementation.

In summary, we consider the impacts on competition to be modest and finely balanced. We consider that P304 and P314 in some respects support competition. However, the distorting effect of the dual price may be exacerbated (in particular in the short-run due to the short timeframe for implementation), an effect that in this case would most likely be felt by independent suppliers. Overall, noting P304 and P314 were intended to be in place as a short-run transition to P305, we consider they may have a marginally negative effect against objective c).

Objective d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements

A majority of Panel members considered P304 and P314 would not better facilitate the achievement of objective d). They considered it is not efficient to progress a modification to implement a temporary solution with little benefit to the industry.

In our view, given the minimal resource required for Elexon to change the PAR parameter, P304 and P314 have a neutral impact against this applicable objective.

Other points of note

Insufficient evidence – owing to short time-frames

We consider that the evidence base provided has been sufficient, and acknowledge the rigour and speed with which Elexon produced the analysis. We also acknowledge the input of the workgroup members, respondents and the Panel against a tight timetable.

We note that Elexon delivered all the analysis the workgroup felt Elexon could usefully explore. In response to concerns of one member, the workgroup felt that it would not be appropriate to construct simulations to assess impacts during tighter margins owing to

the arbitrary nature of such simulations, noting that parties could conduct this analysis easily themselves if they wished.

Although forward modelling could shed further light, in particular illustrating the impact on behaviour change, we consider it would not be proportionate to the modest impacts and envisaged transitory nature for P304 and P314.

Decision notice

In accordance with Standard Condition C3 of NGET's Transmission Licence, the Authority does not direct that modification proposals BSC P304, P314 Proposed or P314 Alternative be made.

Mark Copley
Associate Partner
Wholesale Markets
Signed on behalf of the Authority and authorised for that purpose