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Dear Sonia,

BSC modification proposal P194 Revised Derivation of the Main Energy Imbalance Price - Impact assessment

Thank you for the opportunity to comment on the above impact assessment. We continue to believe that P194 is not required and has the potential to cause parties unnecessary risk through more extreme prices.

The impact assessment analyses the proposal in the context of three main issues:

1. That National Grid's reserve purchases may not be reflected correctly in imbalance prices.
2. That constraint tagging rules may be an imperfect mechanism to remove system actions from imbalance prices.
3. That market participants do not appear to change their prices at times of system stress to reflect scarcity.

A fourth issue is raised about marginal versus average prices. However, we see this as an element of the third issue regarding participants' ability to re-price. Whilst we would agree with the existence of some of the above issues, we do not necessarily believe that P194 represents a solution. We also have some issues with some of the analysis in the impact assessment document.

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Allocation of Reserve in Imbalance Prices

The issue with how reserve contracts are reflected in imbalance prices relates to the methodology for dealing with reserve contract option fees. Originally, these were allocated to periods which occurred during the windows within which the contracts could be called. This was not regarded as being a sufficiently targeted approach though. The concern was that the cost of the option fees would be smeared too thinly and would therefore understate the cost of reserve usage in the periods for which it was used. Therefore, National Grid changed the methodology to allocate option fees to those periods during which it was estimated that reserve was most likely to be called. This estimate was based on historic usage. Analysis presented to the Cash Out Review Working Group (CORWG) has shown that this is not always very accurate. This is to be expected as past usage is not necessarily an indication of future usage.

Whilst the present methodology cannot always be accurate, it should be considered whether there is a better method that could be adopted instead. One option which was considered was to allocate fees into the periods for which reserve is actually utilised. To do this, however, it is necessary to know the number of periods for which the contract will be called in total. Of course this is not possible and so an estimate of the number of periods is required. However, the effect of the reserve option fee will be overstated or understated if the usage rate is underestimated or overestimated respectively, which is most likely to be the case. Therefore, it is not clear that this is a better option than the present method.

For the purposes of assessing P194 it is important to consider whether the modification would improve the reflection of reserve contract option fees in cash out prices. On a conceptual basis there is no reason why this would be the case. P194 affects the NIV tagging mechanism, not the method for apportioning option fees. The analysis in the impact assessment document appears to focus on the possible effects that reserve contracts can have on the end imbalance prices. However, the analysis is purely empirical and does not describe the method by which such effects may occur.

For instance, Figure 7 in section 4 of the document compares SBPs for periods when reserve is used with SBPs for periods when it is not. The graph shows the reserve periods with slightly lower SBPs than the non reserve periods. In paragraph 4.17 it is remarked that this may suggest a “slight dampening effect on cash out prices” as the result of reserve usage, but that there is no conclusive proof of such an effect as other factors may affect cash out prices during these periods. We would agree that there is no conclusive proof. All that the graphs show is a difference in observed prices during this period and cannot be relied on to suggest that this was the result of the use of reserve.

However, the document appears to conclude differently in paragraph 4.39 by stating that cash out signals are indeed at times “being dampened under the current cash out methodology”. Paragraph 4.40 refers back to the previous analysis which demonstrates that cash out prices tend to be slightly lower in periods for which National Grid uses reserve than other periods. The document then says that Ofgem has “considered whether this effect would be improved or worsened if modification proposal P194 was

introduced". However, having previously stated that there was no conclusive proof of a dampening effect and that other factors may have legitimately led to cash out prices being slightly lower during these periods, it is hard to see how it is possible to conclude that there is indeed an effect to be improved or worsened by P194.

Figure 12 shows that the effect of P194 would have been to increase SBP on average during the periods when reserve was used and would have had little effect on non reserve periods. As an instinctive conclusion it may be reasonable to assume that there was therefore some issue with reserve which was being addressed by P194. However, with further thought the only firm conclusion that can be reached is that P194 leads to increased prices during this period. In reality, National Grid's methodology for allocating reserve option fees is likely to overstate the cost in some periods and understate it in others. The assumption for the analysis in the impact assessment appears to be that it will always lead to an understating of the cost and that by increasing the prices you are therefore moving the price in the correct direction. However, even for those periods which may be dampened by the present methodology, as P194 does not address the core method of allocating the option fees, all that can be concluded is that P194 increases the price. It can not be assumed that the price is at a more appropriate level as the root cause of the issue has not been addressed. The price could actually be increased by too much.

We know from the way that the mechanism works that P194 will only have an effect on periods where the Net Imbalance Volume (NIV) is higher than 100MW. It is also reasonable to expect that the larger the NIV the greater the impact P194 is likely to make. Therefore, another conclusion could be that National Grid is more prone to using reserve during periods where there is a relatively high NIV. This seems reasonable, as it is to be expected that National Grid would wish to utilise reserve contracts when it expects to balance a relatively high market imbalance.

Therefore, the only conclusion that we can make is that P194 can not reflect the cost of reserve contract option fees more accurately than the present methodology. Instead it appears to increase the SBPs during periods when reserve also appears to be utilised. However, we suspect that this effect is noticed purely as P194 is more likely to increase prices in periods where there is a high NIV and that these are the periods in which it is more likely that National Grid will utilise reserve.

Effect on Tagging Rules

It is undeniable that the NIV tagging mechanism is an imperfect method for removing system actions from energy prices. A significant reason for this is that some actions have both a system and an energy benefit. Therefore, it is possible to say that these have been taken for both purposes. Additionally, the rules were never designed to be perfect. Instead they are intended to provide a mechanistic approach which does not require a subjective assessment from the system operator as to which actions were for system reasons or to facilitate energy balancing. NIV tagging makes the assumption that the most extremely priced actions (most expensive offers and cheapest bids) are accepted for system purposes, as they have been accepted out of price order. This is not always the case and can result in two types of inaccuracy. Either legitimate energy balancing actions

can be removed from imbalance prices when they should not have been, or system actions can be included in imbalance prices when they should have been removed. Analysis at the CORWG on a limited number of days confirmed this was the case. It was not possible to conclude from this analysis that one effect is more likely than the other.

Of course, the issue to explore is whether or not P194 would improve or worsen the effects of tagging. We agree with the conclusion in the impact assessment that the introduction of P194 could lead to system actions having a greater impact on energy prices as they could form a relatively larger proportion of the weighted average calculation (as the weighted average is taken over a smaller number of actions). This we agree is a reason not to implement P194.

Weighted average versus marginal prices and re-pricing of bids and offers

The impact assessment document notes that weighted average prices have not tended towards the marginal price as economic theory would suggest. We believe that there are a number of reasons why participants do not re-price towards the marginal value. One of these is that real markets seldom fit the exact model of perfect competition assumed in economic theory. There are information imperfections which prevent participants from ascertaining what the marginal value is likely to be.

For instance, in our response to the Elexon's consultation on P194 we noted that National Grid's demand forecast error had averaged around 200MWh for the 12 months we analysed. Therefore, if participants are using this information to ascertain the likely size of NIV and level of the marginal action to meet it, it is not surprising that they are unable to do so. Additionally, there are operational constraints which prevent participants from changing price. For instance, generators are required not to change their prices if they wish National Grid to honour their BMU dynamics for actions which take them beyond the balancing mechanism window, as detailed in paragraph 8 of Part C of the Balancing Principles Statement.

It is also noted in the impact assessment that the difference between the weighted average price and the price of the marginal action is greater as prices increase. This is to be expected and probably shows nothing more than a mathematical effect. A simple example can illustrate this. The average of the numbers 1 and 2 is 1.5. The difference between this and the marginal value of 2 is therefore 0.5. If you add the number 3 to the sequence the average increases to 2. The difference between this and the marginal value of 3 is 1, an increase of 0.5 in the difference. Add 4 to the sequence and the difference between average and marginal increases to 1.5 and so on.

However, the analysis in the impact assessment document concludes that this could be evidence that the divergence between average and marginal prices is most marked at times of system stress (in other words at times when the NIV was particularly short). Apart from ignoring the mathematical effect described above, there are two problematic assumptions underlying this conclusion. The first is that it assumes that higher SBPs result from significantly short NIVs. The second is the assumption that significantly short NIVs equate to system stress.

A shorter NIV does not necessarily mean that the imbalance price should be higher. Similarly, a very short NIV does not automatically mean that the system is under stress. A short NIV simply means that participants have not balanced their positions in the market pre gate closure and that the difference must be balanced by National Grid. This does not necessarily mean that there is limited generation available to meet demand, which is what we would understand from the concept of system stress. It is totally possible for very short NIVs to be experienced when there is a high plant margin available. This is supported by analysis. The graph below in Figure 1 shows a scatter plot of NIV against MELNGC, which is a measurement of the amount of spare capacity on the system, for all periods in 2005. The graph fails to show a clear correlation between the level of NIV and MELNGC. Therefore, it is hard to conclude that a high NIV means a period of system stress.

What a high NIV does mean is that National Grid must take more balancing actions rather than relying on market participants to do so for themselves. There is nothing wrong with this per se, nor does it imply an inefficient outcome.

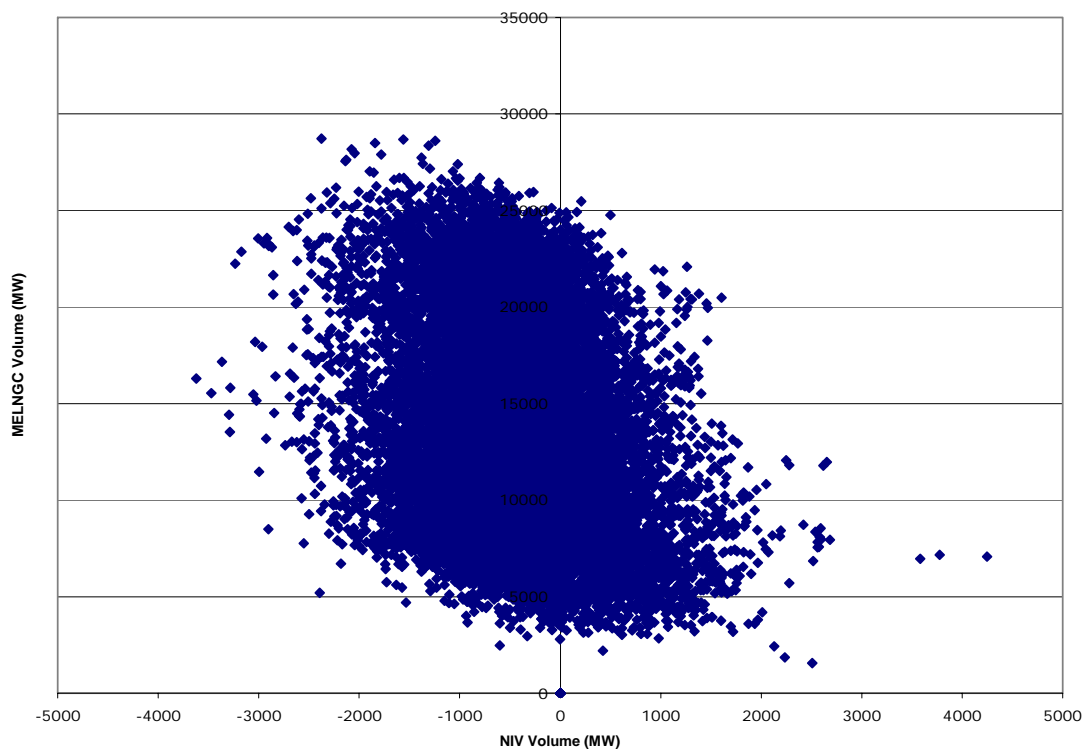


Figure 1 – NIV and MELNGC for calendar year 2005

It is also not necessarily the case that a higher NIV should lead to a higher imbalance price. Participants will make Offers which reflect amongst other things their underlying fuel costs. This can change significantly especially for gas plant. Therefore, high NIVs can be settled during periods of low costs which result in low corresponding imbalance prices. Likewise, high cash out prices can be set against small imbalances if they occur during times when offers are increased to reflect higher costs. Additionally, National Grid's actions can result in higher prices for lower NIVs. For instance, National Grid may

deem it appropriate to accept a short term Offer of a relatively high priced gas turbine or pumped storage unit for a period or two, rather than accept a lower Offer from a thermal plant which may have to be accepted for a larger number of periods. Whilst this is a legitimate approach to keep down total cost, it can result in relatively high cash out prices to meet a small imbalance. Therefore, we believe that to assume automatically that higher NIVs must mean higher SBPs is wrong. Likewise to rely on the analysis in the document to show that cash out prices are failing to provide proper signals at times of system stress as also incorrect.

We do not believe that a marginal pricing mechanism is currently required. Neither do we believe that cash out prices are leading systematically to greater stress on the system. The issues of the 29 December have been quoted in the document as an example of how signals are too weak, resulting in potential problems with meeting demand. However, there was a unique set of circumstances which contributed to events on that day unrelated to cash out prices and the system did ultimately balance. Additionally, it is debatable whether a SBP of around £600/MWh could be perceived as a weak signal.

We are unclear as to why it is deemed important to move the pricing mechanism towards a marginal methodology. We agree that a perfect market in economic theory terms would tend towards a clearing price of the marginal cost. However, there are reasons why this is not achievable in the Balancing Mechanism. In the absence of a clear explanation why this is causing a problem, we do not believe that it is necessary to move to a marginal cash out price purely as proxy for how prices may be expected to outturn under a theoretically perfect market.

What is clear is that P194 will produce more extreme prices. Whether these will provide the correct signal is doubtful. The likely effect is that parties will seek to go longer in general, as was the case prior to the introduction of the present methodology under P78. Additionally, prices may be sufficiently extreme at times to cause significant harm to participants, particularly smaller parties. However, the financial harm that extreme prices could cause to larger parties should not be underestimated either.

The effects on incentives to offer plant to the market should be considered too. Generators will be reluctant to offer less reliable plant for the provision of services such as standing reserve if the risk of tripping is seen as too great. With the present situation of a significant amount of ageing plant approaching retirement, this becomes a greater possibility. The counter argument which has been put in this respect has been that a more extreme signal will act as an incentive to ensure greater plant reliability. In the case of generation approaching the end of its technical life, however, it is more likely to mean that the plant will not be offered for these services, or will seek far higher prices to offset the perceived increase in risk.

In summary, we do not believe that the case for P194 is sufficiently robust. Additionally, we believe that there are good reasons why the P194 could prove a significant risk to the market. This view appears to be supported by the vast majority of the industry, and the BSC Panel, who do not support the amendment. We therefore believe that P194 should be rejected.

I hope that the above proves helpful. Should you wish to discuss this further please do not hesitate to contact me on the above number.

Yours sincerely,

Paul Jones
Trading Arrangements
