Call for Input

ofgem
Making a positive difference for energy consumers

Responding to high balancing costs in winter 2021: Update and proposal to introduce a new licence condition

Summary

In July 2022, we published an open letter[1] setting out our plan to explore a range of near-term[2] interventions to improve existing market arrangements. Since then we have refined these options and tested these at an industry workshop. Today we are minded to take forward our preferred option to introduce a licence condition that prohibits electricity generators from seeking excessive benefit in the Balancing Mechanism (BM) after submitting zero MW physical notifications (PNs).

We welcome views on our preferred option and the proposed new licence condition set out in this letter by 5 December 2022. In particular we are keen for views on the following questions.

1) Do you agree that our preferred option will effectively prevent the behaviour that caused last winter's high balancing costs? Please provide reasons for your answer.
2) Is the proposed licence condition drafting in Annex 1 sufficiently clear? Are there any drafting edits or additions that you would encourage us to consider?
3) Do you agree with the initial list of factors to consider when assessing excessive behaviour? Are there any other factors that you would encourage us to consider?
4) Is there any specific information you would like to see in the accompanying guidance related to interpretation and enforcement of the new licence condition?

Background

National Grid Electricity System Operator's (NGESO or 'the ESO') role is to co-ordinate and direct the flow of electricity onto and over the national electricity transmission system (NETS),

[1] Open letter on responding to the high balancing costs | Ofgem
[2] The options proposed in this letter addresses issues in the current market arrangements targeted over the next few years. In the longer term we are supporting the Government to undertake its comprehensive Review of Electricity Market Arrangements.

in an efficient, co-ordinated and economic manner. It does this by procuring balancing services that are subject to transparent, non-discriminatory and market-based procedures.

The BM is NGESO's primary tool to balance supply and demand in real time. In the BM, market participants signal to the ESO for each given 30-minute settlement period[3] the costs they are willing to pay or be paid to adjust their electricity output or consumption, as a deviation from the position they had notified to the ESO when the wholesale market closed trading for that settlement period. For electricity generators, increasing electricity output is known as an 'offer' and decreasing electricity output is known as a 'bid'. NGESO typically takes actions using the most competitively priced bids and offers, however operational and locational factors can sometimes result in more expensive bids and offers being accepted in order to solve a specific network issue.

NGESO is informed in advance of the generators that are scheduled to run, and at what quantity of generation output, through the submission of PNs. These are notifications from generators of the amount of electricity that they intend to produce during a given settlement period (suppliers also submit PNs to notify expected consumption). PNs can be modified until gate closure, which is an hour before the start of a settlement period. At this point, the market closes for that settlement period and PNs become final physical notifications (FPNs). The hour between gate closure and the start of the settlement period is when the ESO accepts bids and offers submitted by BM participants.

All of the costs incurred by NGESO to operate the NETS are recovered through Balancing Services Use of System (BSUoS) charges. At present, generators and suppliers are liable for these charges, which are calculated daily depending on the cost of the ESO's balancing actions. From April 2023 generators will no longer be liable to pay BSUoS charges and instead, suppliers will be solely liable for all BSUoS charges.[4]

[3] Whilst electricity transmission is continuous, for the purpose of trading and settlement it is considered to be generated, transported, and consumed within 30-minute blocks throughout the day known as settlement periods. Each offer / bid by participants and corresponding action taken by NGESO in the BM corresponds to a specific settlement period.

[4] This change to BSUoS charging has been introduced following the approval of CUSC Modification Proposal 308. Further details can be found here: CMP308: Removal of BSUoS charges from Generation | Ofgem

Call for Input

The need for action

The ongoing gas crisis is putting consumer bills under extreme pressure. As the regulator, we will act wherever possible to protect consumers and relieve this pressure. The costs that NGESO incurs to balance the NETS are ultimately borne by consumers and typically contribute around 1-2% to consumers' electricity bills. Between 2017 and 2020 total NGESO balancing costs for the four months of winter (November to February) averaged just under £500m each winter. For winter 2021/22 this rose alarmingly to over £1.5bn, with record breaking daily costs being experienced during the period. Overall, in 2021/22 the ESO incurred balancing costs of £3.1bn.

The large increase in balancing costs in 2021/22 was primarily driven by increased offer prices, rather than increased volumes having to be purchased by NGESO. Last winter the energy markets and geo-political landscape was volatile and uncertain, with periods of tight margins and high fuel and emission costs contributing to the overall increase in total costs. Following recording breaking daily balancing costs of over £60million on 24 November 2021, NGESO initiated an independent review of the BM.[5] NGESO's review provided an analysis of the different drivers of the high balancing costs observed over the winter and described a number of potential market reforms. It concluded that, based on the information available to NGESO, there was no clear evidence of behaviour inconsistent with the market rules.

In parallel with NGESO's review, we carried out our own investigative work. This included gathering a significant volume of information to consider whether market participants acted outside of their obligations under REMIT[6] or the conditions in the generation licence. The evidence gathered showed behaviours of some generators that were not aligned with the interests of consumers. We continue to consider potential enforcement options.

Our concerns were driven by a combination of behaviours by some generators. This combination included instances of generators initially signalling their intention to generate during a settlement period but then reducing their PN to zero, to send a signal to the ESO that the generation unit intends to cease generating electricity. This often happened with little advance notice, for example on the day in question and sometimes only minutes before gate

[5] ESO Balancing Market Review 2022 | National Grid ESO

[6] REMIT is the Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency. It is the mechanism for reporting and preventing wholesale energy market abuse.

closure for a particular settlement period. Once a generation unit ceases to generate electricity, it must remain at zero output for a set period of time in order to comply with the unit's 'minimum zero time' (MZT), which is a pre-determined technical capability of the generation unit.[7] Gas-fired generators typically have a MZT of six hours. In practice, this means once a gas-fired generator has ceased generating electricity, it won't be able to start generating electricity again for at least 6 hours. Last winter, there were instances of gas-fired generators informing the ESO, at times with little advance notice, that they would cease generating in the afternoon. Due to the generation unit's MZT, that meant the generator would then be unavailable to generate electricity later that day, for example, during the period of peak evening demand (i.e., when generation is most in need).

Although a generator may notify the ESO that it intends to cease generating electricity, it is possible for the ESO to take action to ensure the unit continues to generate electricity. This is achieved through the ESO accepting the generator's offers in the BM. Last winter there were instances of generators notifying the ESO that they intended to cease generating electricity for a particular period before significantly increasing the price of their offers to the ESO to continue generating during that period. In isolation, occasional high offer prices may be necessary to allow companies to respond to scarcity signals in a way that recovers their investment costs. These price signals have an important role to play in orchestrating supply to meet demand and may also incentivise investors to bring forward additional generation when there is scarcity of capacity. However, when high offer prices were combined with a reduction of PNs to zero, lengthy MZTs and limited spare generation capacity available to meet peak demand, the ESO often had limited options available and incurred much higher costs than anticipated to maintain system security.

Rationale for Intervention

Our principal objective is to protect consumers' interests. We do this in part by stamping out sharp practices and enabling competition to drive down prices for consumers. Moreover, our Forward Work Programme for 2022/23[8] outlined that one of our enduring priorities is to ensure domestic market arrangements are efficient while maintaining security of supply and facilitating the delivery of net zero objectives.

[7] Generators' technical capabilities are known as dynamic parameters. The full list of dynamic parameters is set out in the Grid Code at BC1.A.1.5
[8] 2022/23 Ofgem Forward Work Programme | Ofgem

Call for Input

Evidence from last winter showed that there is room within the existing wholesale market arrangements for changes that better ensure energy markets deliver in consumers' interests. The objective of our proposed intervention is to prohibit generators from participating in the combination of behaviours and sharp practices that led to last winter's high balancing costs. In reducing the costs incurred by the ESO to balance the system we will reduce prices for consumers as these costs are ultimately paid for through consumers' bills.

Options for intervention

After our open letter in July, we further considered a broad range of intervention options (separate to our consideration of potential enforcement action against existing legal obligations) and, following our internal assessment, we shortlisted six possible options for implementation. The shortlist of interventions comprised of:

1. Price cap on BM offer prices
2. Changes to bid/offer structures
3. A new NGESO balancing service to procure firm reserve
4. A new licence condition preventing excessive benefit after submitting a zero MW PN
5. Restrictions on amending PNs after day ahead
6. Clarifying 'good industry practice' in the Grid Code

We have set out below what these options might look like in practice, how they could be implemented, the benefit to consumers and any other key considerations. These options are not necessarily mutually exclusive and as such a combination of options could be taken forward by Ofgem, the ESO and industry. We may also take other enforcement action, such as through our competition law powers.

On 5 October 2022 we held an industry roundtable to workshop these options with industry participants. We have included a summary of views that were given against each of these options.

Option 1 - Price cap on BM offer prices

We considered two possible ways of implementing a price cap in the BM;

a) an explicit cap on all offers in the BM,
b) a cap on a unit's BM offer prices after submitting zero MW PNs.

Option 1a would apply as a cap on all offers in the BM. In implementing this type of price cap, we would need to establish an appropriate methodology for determining the maximum price of offers that could be deemed appropriate.

Option 1b only applies a price cap on offers for generators in relation to settlement periods in respect of which they have submitted zero MW PNs. For these specific periods, any price restrictions could be introduced through various means, for example, as an average of market-wide accepted offer prices.

In both variants we expect changes could be implemented via amendments to the Balancing & Settlement Code (BSC). This option could lower costs to consumers and directly target the behaviours in question, whilst giving certainty to market participants about the price level of offers that is deemed to be acceptable. For this reason, many respondents at the roundtable were not against this option but with caveats around how such a restriction might be designed and how adaptable it is to changing market conditions.

For both options but particularly option 1a, much work would be needed to ensure the cap is set at the right level, so it prevents undesired behaviour whilst limiting the impact on price signals and competition. In any case we consider any price cap on BM offers will invariably dampen price signals to some extent and as such could have impacts on both security of supply and investment.

Option 2 - Changes to BM bid/offer structures

This option could increase the flexibility on the basis with which market participants submit bids and offers to ensure generators can better reflect their true generating capabilities. Currently market participants submit a relatively simple price per megawatt hour as part of their bids and offers. However, the structure of bids and offers could be changed to be more complex so as to better reflect the underlying cost drivers of a generators' output. For example, generators could submit variable prices depending on whether the generation unit was already running or starting from cold, and/or variable prices for running at maximum output or minimum output.

Conversely, an alternative variant of this option would be for the information that market participants submit to the ESO to be simplified. For example, alongside the price of their bids and offers, generators submit information to the ESO on their generation unit's technical capabilities, known as dynamic parameters. In accepting bids and offers the ESO must respect the technical capabilities of each generator. If some or all of this information was removed from the ESO's decision making it could free the ESO to better select balancing actions strictly in cost order and generators would need to 'internalise' the implications of their own technical characteristics into their bids and offers (i.e., in a similar way to how market participants trade in day ahead and intraday markets).

This option may reduce costs for consumers and may have a positive effect on price signals, however it does not directly target the behaviour in question and more complexity may lead to the ESO's BM dispatch decisions becoming more complicated (or less transparent). There is also a risk that removing dynamic parameters may negatively impact smaller generators and investment in generation. There may also be less transparency for the ESO about the operating characteristics of different BM participants.

The main issue raised at the roundtable regarding this option was the time required for implementation. Stakeholders noted that these changes may not be compatible with the ESO's current IT system and, as such, this option could not be implemented for several years.

This was one of the proposals presented in the ESO's balancing market review and changes in this area may still be taken forward by industry.

Option 3 - A new NGESO Balancing service to procure firm reserve

Option 3 is a new ESO balancing service to procure firm reserve from generators (or other market participants). This would provide an opportunity for NGESO to 'lock in' reserve capacity in advance, meaning that those generators that choose to enter into this service to provide reserve capacity would be prevented from reducing their PNs to zero MW. If costed appropriately, this could reduce costs for consumers compared to the baseline and provide the ESO with additional operation tools. However, there is uncertainty over the cost and potential volume that this service could attract if generators are able to choose to participate. Moreover, the service itself would incur a cost in order to prevent behaviour that we don't believe is in

consumers' interests in the first place. That is, the service could appear to reward undesirable behaviour.

Respondents generally welcomed the idea but noted that the success of this option depended on how well the product was designed, and how it would interact with other similar NGESO products while ensuring service providers can manage exposure to imbalance charges. We understand NGESO has begun to consider new balancing products in response to recent high balancing costs and we will continue to engage with NGESO on these developments.

Option 4 - A new licence condition preventing excessive benefit after submitting a zero MW PN

This option consists of a new licence condition that would prohibit generators from gaining excessive benefit after they have reduced their PNs to zero. This would be targeted at situations when PNs are revised to zero with little advance warning for the ESO, for example when PN revisions occur on the same day as the settlement period that the PN relates do. In circumstances where Ofgem suspected that a market participant was seeking to gain excessive benefit after submitting a zero MW PN we would expect that market participant to objectively justify why its relevant offer prices were not excessive.

For the avoidance of doubt, the licence obligation would be strictly defined as applying in periods only after a generator had submitted a zero MW PN. In all periods where a non-zero PN is submitted the prohibition would not apply.

This option targets the behaviour that we consider has driven the increase in BM costs without impeding price signals or unduly disrupting existing trading arrangements. It also avoids the need to define an explicit price cap value, which means this option may be more flexible to changing market conditions and circumstances.

While some roundtable participants considered this a straightforward intervention, there were questions about how market participants could be given sufficient clarity on meeting the new licence obligations and, in particular, how 'excessive benefit' would be defined. We agree that it would be important to provide guidance as to the application of the licence condition in practice and would note that this is specifically provided for in the draft licence condition set out in the Annex.

Option 5 - Restrictions on amending PNs close to real time

Under this option PNs would be considered final (i.e., FPNs) at an earlier point in time, instead of at gate closure. This point could be at the day ahead stage or several hours ahead of the existing gate closure. As part of this option, it could be possible for a limited variety of changes to be made to PNs closer to real time, but only for a limited number of justified reasons, for example unplanned plant outages.

This option would prevent a notable degree of the behaviours seen last winter as it would prevent generators from revising PNs at short notice, giving the ESO more time to call upon alternative balancing options. It also does not impede price signals as there would be no additional restrictions on the price of BM offers. However, this option could be seen as a significant departure from our existing self-dispatch market arrangements and would reduce the flexibility of market participants' dispatch decisions. It may also create unintended barriers for intermittent generators, for whom forecasting output a day ahead may be more difficult. Roundtable participants were also of this view and considered this option overly interventionist as it could stymie intraday flexibility.

Option 6 - Clarifying 'good industry practice' in the Grid Code

The Grid Code currently states that PNs must be prepared in accordance with Good Industry Practice. This option seeks to clarify "Good Industry Practice" in respect of the submissions of PNs, which is defined in the Glossary & Definitions section in the Grid Code. We could provide further clarity on our expectations and, for example, be explicit that, in Ofgem's opinion, we do not consider good industry practice to include submitting PNs of zero MW when the system margins are tight, and when healthy revenues are likely available in traded wholesale markets. This option would be a revision to an established element of the Grid Code and it is questionable whether the Grid Code text could be reasonably interpreted in this manner given that the definition could arguably relate to the competence with which the physical asset is operated rather than relating to commercial decisions.

Respondents welcomed a proposal to clarify definitions and noted it would be straightforward to implement. However, the success of the measure would depend significantly on the clarity

of Ofgem's expectations. We agree with this sentiment and this would be our focus should we revisit this option in future.

Options assessment

We have considered each option using a consistent assessment approach. As there is a wide range of factors that drive generators' dispatch and pricing decisions, assessing the relative impact of each of the options on BM behaviours and overall balancing costs requires careful consideration. We have therefore relied on a structured qualitative assessment of each shortlisted option against the following four criteria:

- **Balancing costs reduction:** we considered the extent to which each option would be expected to directly reduce the market behaviours we saw last winter and, ultimately, balancing costs.
- **Compatibility with existing market design:** we considered the extent to which each option was compatible with the existing self-dispatch market design (while being mindful of the government's ongoing review of electricity market arrangements,[9] which could lead to further market reforms in future).
- **Impact on price signals:** we considered whether each option may dampen or limit price signals, which could have adverse consequences on system security and investment.
- **Ease of implementation:** we considered the implementation requirements for each option and the extent to which each option could be expected to be implemented in the near-term.

Figure 1 below provides a high level summary of our options assessment using a red amber green (RAG) rating. In respect to each criterion, green suggests a positive impact, amber is neutral or negligible impact and red is a negative impact.

[9] https://www.gov.uk/government/consultations/review-of-electricity-market-arrangements

Figure 1: Options Assessment

	Balancing costs reduction	Compatibility with existing market design	Impact on price signals	Ease of implementation
1. Price cap on BM offers				
2. Changes to BM offer structures				
3. ESO balancing service				
4. New licence condition				
5. Restrict intraday changes to PN				
6. Clarifying the Grid Code				

Our preferred option

Our preferred intervention is option 4, introducing a new licence condition to prohibit excessive benefit after submitting a zero MW PN. This option is implementable within relatively short timescales and best placed to directly reduce the market behaviours we saw last winter (and therefore reduce balancing costs) without disrupting existing trading arrangements or impeding price signals during periods of scarcity.

We will continue to develop this option with the intention of including this as a new provision in the electricity generation licence applying to all licensed generators. In the Annex to this Call for Input we have included provisional drafting to give an indication of what the new licence condition could look like. This drafting represents initial thinking and will be considered further should we decide to proceed with this option and progress to a statutory consultation on modifying the electricity generation licence. As part of this Call for Input we welcome views on the proposed licence condition text.

Call for Input

If we decide to take forward this proposal to statutory consultation, we will publish draft guidance to support the interpretation of the licence condition (as per paragraph 5 of the draft condition). This guidance shall include a non-exhaustive list of factors we will consider when assessing whether a generator's offer is excessive. We expect these to include but may not be limited to:

a) **Overall system tightness:** An assessment of the publicly forecasted system margin for the settlement period for which offers are submitted, as well as any published system warnings.
b) **Has the offer price changed significantly after revising the PN to zero?** Comparing the price of offers made by the generator before and after the reduction of its PN to 0, whilst considering any change of market conditions during this time.
c) **Has the revised PN materially affected the system margin?** Without this generator being synchronised what remaining options does the ESO have to balance the system.
d) **To what extent is the offer price in line with prices in similar periods of scarcity?** Benchmarking against offers in settlement periods with similar market and system conditions.
e) **To what extent is the offer price in line with the market's valuation of scarcity?** Comparing the price of the offers to the prices paid for energy in day ahead and intraday trading for delivery in the relevant settlement periods.
f) **What and how have other costs been factored into the offer price?** Any other relevant economic factors that influence pricing, such as fixed and variable costs of power generation, sunk costs, opportunity costs and expected costs (e.g., imbalance or network charges).

Call for input and next Steps

We welcome all responses to this Call for Input by Monday 5 December 2022. Please email your response to Robin.Dunne@Ofgem.gov.uk.

The questions we are particularly keen for views on are:

1) Do you agree that our preferred option will effectively prevent the behaviour that caused last winter's high balancing costs? Please provide reasons for your answer.

Call for Input

2) Is the proposed licence condition drafting in Annex 1 sufficiently clear? Are there any drafting edits or additions that you would encourage us to consider?
3) Do you agree with the initial list of factors to consider when assessing excessive behaviour? Are there any other factors that would encourage us to consider?
4) Is there any specific information you would like to see in the accompanying guidance related to interpretation and enforcement of the new licence condition?

After carefully considering all responses, we will decide whether or not to take forward or preferred option. Any subsequent statutory consultation on the new licence condition, plus supporting documents such as a draft of the guidance and an impact assessment, will likely be published in late 2022 or early 2023.

Annex 1– proposed draft of the new licence condition

Condition XX. Prohibition on excessive benefit from electricity generation after submitting zero MW Physical Notifications

1. The licensee must not obtain an excessive benefit from electricity generation in respect of a Settlement Period in relation to which the generator has submitted a Physical Notification of zero MW.

2. For the purposes of paragraph 1, the licensee shall be considered to have obtained an excessive benefit from electricity generation in respect of a Settlement Period if:
    a. the licensee has submitted a Physical Notification of zero MW to the system operator in respect of that Settlement Period within the same Operational Day as that Settlement Period;
    b. the licensee and the system operator enter into, or have entered into, Relevant Arrangements in respect of that Settlement Period; and
    c. under the Relevant Arrangements in respect of that Settlement Period and in connection with an increase in electricity generation the licensee is paid or seeks to be paid, an excessive amount by the system operator.

3. For the purposes of paragraph 2 the reference to an increase in electricity generation by the licensee in respect of a particular Settlement Period means:
    a. an increase in comparison to the licensee's Physical Notification of zero MW; and
    b. an increase in generation of electricity by a particular generating plant, whether there is an overall increase in electricity generation.

4. This licence condition shall be interpreted and enforced in accordance with guidance published by the Authority.

5. Before this condition comes into force the Authority shall publish the guidance referred to in paragraph 4.

6. Before the Authority publishes the guidance referred to in paragraph 4 the Authority shall consult:
    a. the holder of any licence under section 6(1)(a) of the Act; and
    b. such other persons as the Authority thinks it appropriate to consult.

7. The Authority may from time to time revise the guidance referred to in paragraph 4 and before issuing any such revised guidance the Authority shall consult such person as specified in paragraph 6 setting out the text of, and the reasons for, the proposed revisions.

8. The licensee shall provide to the Authority, in such manner and at such times as the Authority may reasonably require, such information as the Authority may require or deem necessary or appropriate to enable the Authority to monitor the licensee's compliance with this condition.

"Balancing Mechanism"	means the mechanism for the making and acceptance of offers and bids to increase or decrease the quantities of electricity to be delivered to, or taken off, the total system at any time or during any period so as to assist the system operator in coordinating and directing the flow of electricity onto and over the national electricity transmission system and balancing the national electricity system pursuant to the arrangements contained in the BSC;
"Operational Day"	has the meaning given in the Grid Code[10]
"Physical Notification"	means a notification of the intended level of generation made by the licensee to the system operator for a period pursuant to the notification arrangements established by BETTA and the BSC;

[10]Currently the Grid Code definition is "The period from 0500 hours on one day to 0500 on the following day."

"Relevant Arrangements"	means arrangements entered into by the licensee and the system operator within the Balancing Mechanism, and the entering of such arrangements shall include the making of an offer by the licensee whether or not that offer is accepted by the system operator.
"Settlement Period"	has the meaning given in the Grid Code[11]

[11]Currently the Grid Code definition is "A period of 30 minutes ending on the hour and half-hour in each hour during a day."