

Public

Workgroup Consultation Response Proforma

GC0166: Introducing new Balancing Mechanism Parameters for Limited Duration Assets

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses to grid.code@nationalenergygyso.com by 5pm on 09 December 2024. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration.

If you have any queries on the content of this consultation, please contact Milly Lewis Milly.Lewis@nationalenergygyso.com or grid.code@nationalenergygyso.com

Respondent details	Please enter your details	
Respondent name:	Meziane Benmaamar	
Company name:	Arenko Cleantech Limited	
Email address:	policy@arenko.group	
Phone number:	07918290419	
Which best describes your organisation?	<input type="checkbox"/> Consumer body <input type="checkbox"/> Demand <input type="checkbox"/> Distribution Network Operator <input type="checkbox"/> Generator <input type="checkbox"/> Industry body <input type="checkbox"/> Interconnector	<input checked="" type="checkbox"/> Storage <input type="checkbox"/> Supplier <input type="checkbox"/> System Operator <input type="checkbox"/> Transmission Owner <input type="checkbox"/> Virtual Lead Party <input type="checkbox"/> Other

I wish my response to be:

(Please mark the relevant box)

☒ **Non-Confidential** (*this will be shared with industry and the Panel for further consideration*)

☐ **Confidential** (*this will be disclosed to the Authority in full but, unless specified, will not be shared with the Workgroup, Panel or the industry for further consideration*)

Public

For reference the Applicable Grid Code Objectives are:

- a) *To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity*
- b) *Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);*
- c) *Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;*
- d) *To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and*
- e) *To promote efficiency in the implementation and administration of the Grid Code arrangements*

For reference, (for consultation questions 6 & 7) the Electricity Balancing Regulation (EBR) Article 3 Objectives and regulatory aspects are:

- a) *fostering effective competition, non-discrimination and transparency in balancing markets;*
- b) *enhancing efficiency of balancing as well as efficiency of national balancing markets;*
- c) *integrating balancing markets and promoting the possibilities for exchanges of balancing services while contributing to operational security;*
- d) *contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector while facilitating the efficient and consistent functioning of day-ahead, intraday and balancing markets;*
- e) *ensuring that the procurement of balancing services is fair, objective, transparent and market-based, avoids undue barriers to entry for new entrants, fosters the liquidity of balancing markets while preventing undue market distortions;*
- f) *facilitating the participation of demand response including aggregation facilities and energy storage while ensuring they compete with other balancing services at a level playing field and, where necessary, act independently when serving a single demand facility;*

Public

- g) *facilitating the participation of renewable energy sources and supporting the achievement of any target specified in an enactment for the share of energy from renewable sources.*

What is the EBR?

The Electricity Balancing Regulation (EBR) is a European Network Code introduced by the Third Energy Package European legislation in late 2017.

The EBR regulation lays down the rules for the integration of balancing markets in Europe, with the objectives of enhancing Europe's security of supply. The EBR aims to do this through harmonisation of electricity balancing rules and facilitating the exchange of balancing resources between European Transmission System Operators (TSOs). Article 18 of the EBR states that TSOs such as the ESO should have terms and conditions developed for balancing services, which are submitted and approved by Ofgem.

Please express your views in the right-hand side of the table below, including your rationale.

Standard Workgroup Consultation questions		
1	Do you believe that the Original Proposal and/or any potential alternatives better facilitate the Applicable Objectives?	Mark the Objectives which you believe the Original Solution better facilitates:
		Original <input checked="" type="checkbox"/> A <input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D <input checked="" type="checkbox"/> E
		We welcome the opportunity to respond to this consultation. We think the Original Proposal will better facilitate the Applicable Objectives. Fundamentally it will enable the provision of crucial data on real-time and future energy capacity for all Balancing Mechanism Units in the control room. It represents a step change in enabling a level playing field between energy limited and energy unlimited assets and is an important step in acknowledging that the technologies required to decarbonise the power system behave fundamentally different to traditional generation.
2	Do you support the proposed implementation approach?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		We support the intention to move quickly on this and the aspiration to deliver as early in Q2 2025 as possible. To manage the software work needed, we will require NESO to be clear and firm on the timelines given to industry for implementation, including by way of an early indication of Ofgem's minded-to-position. We would request at least a

Public

		10 week notice before go-live, or if this is not possible, the potential for a transition period should be explored.
3	Do you have any other comments?	No
4	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	<input type="checkbox"/> Yes (the request form can be found in the Workgroup Consultation Section) <input checked="" type="checkbox"/> No Click or tap here to enter text.
5	Does the draft legal text satisfy the intent of the modification?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
6	Do you agree with the Workgroup's assessment that the modification does impact the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the Grid Code?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
7	Do you have any comments on the impact of the modification on the EBR Objectives?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Click or tap here to enter text.

Specific Workgroup Consultation questions

8	Do you agree with the Proposer that the solution should be technology neutral or with several Workgroup members who thought the	<input checked="" type="checkbox"/> Technology neutral <input type="checkbox"/> Based on asst type We note that Working group members who represented other forms of storage seemed concerned that their technology wouldn't be explicitly called out in the control room. We understand NESO's technology agnosticism in the context of this Grid Code modification - the main
---	---	---

Public

	solution should be based on asset type?	<p>concern should be whether a BMU can deliver an 89-minute instruction or not. If you can that is fine, you are an unlimited duration participant and can submit MDO/MDB 9999 MWh values. Otherwise, limited duration participants will use these parameters as best as they can, and NESO will discuss with all participants an asset model that best represents the site.</p> <p>GC0166 is already a break with previous technology agnosticism as it accepts that storage works differently, which is a necessary move in the right direction. Being more specific about specific technologies in the Grid Code does not make it any clearer for anyone.</p>
9	Are you clear on what is meant by limited/unlimited?	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Yes, we understand that for the purposes of the scope of this consultation, limited is defined with respect to the BM window - can a participant deliver a BOA for 89 minutes and not be curtailed by lack of energy is the key criteria. However, we would emphasise that in practice no technology is actually energy unlimited - even gas turbines are limited by physical logistics of gas. At a given point in time a turbine will have finite reserves of gas.</p>
10	Do you agree that MDO/ MDB are technical dynamic parameters	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>We would like to understand why this distinction matters for the NESO. If MDO/MDB are classified as technical parameters, it raises questions about whether penalties for non-delivery would actually apply and/or whether additional guidance for Good Industry Practice would end up being needed (as is the case with <u>Final Physical Notifications</u>, another sacrosanct technical parameter).</p> <p>Commercial considerations inevitably influence technical commitments. FPNs are inherently a decision of commercial trades, often 90 minutes ago on the</p>

Public

		<p>wholesale market. Minimum run-times for conventional generation reflect the economics of the asset as much as they do its physical capabilities.</p> <p>We recognise that a distinction is needed to be able to talk about physical asset capability, and this is reflected in Ofgem's letter to crack down on BMUs withholding energy from the BM for commercial reasons.</p> <p>However, we think the various grey areas, and the difficulty in coming to clear conclusions about this in the working group, shows that the “commercial” vs “technical” distinction is not as unambiguous as NESO would like it to be. The intent of a principle like this is to use it to inform and drive more fine-grained decisions. In this case we do not think this principle has made this process clearer or easier. We would like to see NESO work to develop principles which better reflect the nuances of the modern energy system and can help guide decision-making into the future.</p>
11	Do you see there being an interaction between MIL/ MEL between MDO and MDB?	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>The Original Proposal is a compromise position - better than the status quo - but leaves some problems on the table. It will be up to providers to provide a MEL and MDO value which maximise the amount of usable energy. However, the current interface is not in a position to provide an array of values which show for varying MELs, how much energy could you offer, which is a fundamental limit on how well batteries can be used. We illustrate this by way of this interactive notebook produced by Eli Treuherz, our Senior Software Engineer.</p>
12	Is it clear from the definition of FSoE that	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>

Public

	this should be calculated at the point where it can be imported/ exported to the Total System?	Yes, this is clear.
13	Is it credible for the proposed level of FSoE accuracy to be achieved over the proposed time horizon (up to 33hrs)?	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>At no point in the T - 4–33-hour timeframe do we believe it is possible to achieve the proposed level of accuracy for a FSoE value as it is continuously subject to commercial trading decisions. We think this is particularly the case given the service and auction timings referred to below.</p> <p>As far as we are aware, the SMP doesn't plan to ingest:</p> <ul style="list-style-type: none"> • Day-Ahead wholesale market auction data, OTC trades • Seasonal, Week-ahead, Day-Ahead DNO constraint service agreements • DNO active network management obligations • Under-development intraday markets such as Electron's <u>BiTrader</u> project and innovative DNO products such as SSEN's <u>Resilience as a Service</u> product. <p>Using FSoE, NESO will determine how much reserve we will not be able to provide, because we are in NESO ancillary services - once it gets updated with day-ahead SMP auction data. This does not account for technical faults, DNO markets and most importantly intraday market changes, still leaving considerable inaccuracy.</p> <p>Ultimately batteries will constantly churn positions on energy leftover within the limits making the indicative FSoE value at the day ahead unpredictable. This is not a forward-looking approach and would limit new market innovations in the intra-day timescale.</p>

Public

		<p>We recognise the need for NESO to model the system accurately and understand limits on BMUs and continuously anticipate future system margins. However, we are concerned that the intention to use this for planning and scheduling is a distraction from better designed Reserve markets.</p> <p>Ultimately, if the NESO wants more credible volumes for regulatory reserve you need to procure it through iterating on the Reserve services and</p>
14	How do you think NESO can/ should use FSoE and Asset Specific models in their system planning, considering market activity also continues within day, and commercial interactivity with operational "limits"?	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>The value of FSoE as it pertains to system planning depends entirely on how it ends up being used by the NESO - both as intended versus how it gets used in practice. If it ends up being used for scheduling and 'sterilising' reserve in the current BM window for future use - absent of some form of an availability payment – it would be cause for concern. We would benefit from additional clarity on the NESO on how this parameter intends to be used by way of an equivalent 'day in the life' diagram as done for MDO/MDB.</p> <p>Additionally, we support any intention to publish both MDO/MDB and FSoE on the Elexon Insights Solution as it would improve transparency of information and improve trusted governance in the sector.</p> <p>Asset specific model would improve in utility should there exist mechanisms to improve the freshness of the model to account for factors such as complicated auxiliary load, curtailment conditions, component degradation, scheduled and un-scheduled downtime and self-consumption for co-located sites. We think this would make an exemplary use-case as part of the MVP development of the Data Sharing Infrastructure.</p> <p>Coordination with the NESO's Virtual Energy System</p>

Public

		programme should be pursued to explore this data model with Industry.
15	Is it clear whether FSoE is proposed or considered as either a 'technical' or 'commercial' parameter?	<input checked="" type="checkbox"/> Technical parameter <input type="checkbox"/> Commercial parameter Click or tap here to enter text.
16	Is it clear from the definition of MDO and MDB that NESO can send multiple instructions up to the volume declared?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <p>Yes, it's clear that if your MDO could be 20MWh, NESO can send two 10 MWh instructions in quick succession. Our systems are highly robust and will be able to handle this well.</p> <p>A note on MDO/MDB: We recognise that MDO and MDB are a step change in improved visibility of real-time instructible volume compared to the 30-minute MEL/MIL rule and will be crucial to improved economic dispatch.</p> <p>However, to be clear, we do not think MDO and MDB in the absence of the new market mechanisms can be defined usefully for the NESO in the rolling planning and dispatch windows before gate closure.</p> <p>No market participant has accurate forecasts for what they are doing at the day ahead. Given the way batteries trade, any attempt to use this for planning at that kind of timescale is highly error-prone and we expect it to be too uncertain to be useful. Neither does a static update at 11am at the Day Ahead makes sense of this. We believe this reflects anachronistic data validation rules which is not suitable for the new OBP world.</p> <p>In practice we will end up setting default values out into</p>

Public

		<p>the future, as we do with BODs. Any of these indicative values will end up being set to zero or wrong.</p> <p>Only in the hour before Gate Closure, when intraday wholesale markets clear, do our wholesale market positions begin to solidify and MDO/MDB would become useful.</p> <p>The biggest change which will impact trading will be when we have a Non-zero PN after BM window changes. When the gate closes over period 4, you've got a new PN for period 4 that's now locked in. So, you change your MDO and MDB for periods two and three to account for it.</p> <p>It won't stop us trading, but it introduces a new risk. If we're taken on the BM in period 1, we might need to trade out of a position taken in period 4 because of changes to our availability. Once the current period is locked, we lose the ability to live update it while still trading the next unlocked period. This is a key implication of the technical vs commercial parameter question.</p> <p>This could work generally, but if you get a BM instruction in the last few seconds before the SP ends, such that you are not able to trade out of your position before your PN is finalised, you can end up at a commercial disadvantage. This is a risk all market participants will have to face.</p>
17	Is it clear that the services referenced within the definitions of MDO and MDB are only during the BM Window?	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p> <p>It is not clear that the services referenced within the definitions of MDO and MDB are only during the BM Window.</p>

Public

		<p>Say you need to maintain REV of 15MWh in order to deliver dynamic frequency response. It seems NESO's intention is that you set an MDO such that you would reserve that volume through the BM window, but you could receive a BOA such that you need to buy energy in the first unclosed period to recover the REV. In the event that they receive a BOA close to the end of a settlement period, this may mean a BM unit spends some time unable to recover this energy. This is a new risk NESO is subjecting providers to, and we understand the trade-offs involved and that NESO finds this an acceptable compromise. Nevertheless, we would NESO them to be straightforward with providers about this risk, including by engaging with dynamic frequency response providers.</p> <p>Based on the definitions, it is not clear that the definitions only applying during the BM Window and the text may need improvement.</p>
18	Do the restrictions in BC2.5.3.4 strike the right balance between flexibility and operability?	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>We think the restrictions in BC2.5.3.4 are suitable for the purposes of MDO and MDB.</p> <p>From a strategic perspective, of the approximate 5GW/7GWh of the BESS fleet online, roughly only 60% are participating as BMUs. A lack of clear and stable revenue streams within the BM risks driving further non-BMUs coming online. Asset owners are already seeking alternative non-BM revenue opportunities, such as tolling agreements with suppliers, which can offer more predictable or lucrative returns.</p> <p>NESO must ensure its dispatch strategy is not overly restrictive or excessively focused on cost-minimisation to the detriment of participant viability and improved system observability.</p>

Public