

Code Administrator Consultation Response Proforma**GC0154: Incorporation of interconnector ramping requirements into the Grid Code as per SOGL Article 119**

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@nationalgrideso.com by **5pm** on **07 November 2023**. 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 catia.gomes@nationalgrideso.com or grid.code@nationalgrideso.com

Respondent details	Please enter your details	
Respondent name:	Iain McIntosh	
Company name:	Ørsted	
Email address:	iainm@orsted.com	
Phone number:	Click or tap here to enter text.	
Which best describes your organisation?	<input type="checkbox"/> Consumer body <input type="checkbox"/> Demand <input type="checkbox"/> Distribution Network Operator <input checked="" type="checkbox"/> Generator <input type="checkbox"/> Industry body <input type="checkbox"/> Interconnector	<input 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☐ Confidential

Note: A confidential response will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

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 5 & 6) 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;*
- 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 Code Administrator Consultation questions

1	Please provide your assessment for the proposed solution(s)	Mark the Objectives which you believe the proposed solution(s) better facilitates:				
		Original	<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> D

	against the Applicable Objectives?	WA(G)CM1	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
		Click or tap here to enter text.	
2	Do you have a preferred proposed solution?	<div data-bbox="628 309 823 389"> <input checked="" type="checkbox"/>Original <input type="checkbox"/>WA(G)CM1 </div> <div data-bbox="628 515 1445 985"> <p>The original proposal best meets the applicable grid code objectives in all respects. It is apparent that the existing ramping arrangements introduce additional cost to GB consumers as the ESO has to counter-trade to reduce the speed of ramp. It is evident that a significant increase in interconnectors will have the potential to introduce significant swings in demand or generation between settlement period, resulting in significant concerns for operational and system security. It is also not efficient for GB consumers, as essentially, they incur the costs to facilitate the market considerations of interconnected markets.</p> </div> <div data-bbox="628 1034 1445 1429"> <p>The current arrangements discriminate against BMUs that must adhere to the grid code, even though they have similar technical capabilities to those of the interconnectors. This results in BMUs incurring costs that interconnector parties do not incur. This results in an “uneven playing field” in respect to matching contractual positions to real time delivery. As a result, there are significant disadvantages of WA(G)CM1 when assessed against all objectives and EBR objectives, especially competition, participation, efficiency, and security.</p> </div> <div data-bbox="628 1473 1426 1868"> <p>The ESO position would appear to be supported by the Baringa analysis whilst there was little evidence forthcoming to support the alternative workgroup modification. Furthermore, as GB generators are no longer able to offer services into neighbouring TSO markets, there seems to be little incentive to accommodate operational requirements of neighbouring TSOs if it results in additional costs to GB consumers. Again, this must result in poor scoring against assessment criteria, and an unreliable evidence base.</p> </div> <div data-bbox="628 1912 1458 2105"> <p>Furthermore, there is international precedent that dispels some of the arguments presented by the alternative modification; the connected TSO on the GB-Norway interconnector restricts ramping rates to 30 MW/min Nordic LFC block methodology for ramping restrictions for</p> </div>	

		<p><i>active power output in accordance with Article 137(3) and (4) of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (entsoe.eu).</i> This restriction was put in place as it was recognised with 4 interconnectors in the NO2 zone moving at an unrestricted speed would impact on the dimensioning aspects of reserve and response holdings. As part of this ramp rate restriction, a socio-economic benefit analysis was undertaken, and this determined that the impact of slowing ramp rates on socio-economic benefit was minimal, and significantly cheaper than the alternative mitigations (i.e. carrying more response) and maintained operational and system security. This would appear to mirror the findings of the Baringa analysis for this modification.</p> <p>In respect to the alternative, much is made that interconnectors contribute to system security and therefore, reducing the ramp rate would somehow impinge on this. This is not a complete nor a correct argument. The collective ramping of GWs of power flows at speeds of 100MW/min introduces considerable risk and the “reduced flexibility” that would come from this modification should not be regarded as a negative impact on system security. It is certainly true that the ability to transfer energy between markets does indeed improve system security. However, the risks that this introduces to system operability are considerable. Operational use of the interconnectors by the ESO is not typically determined by the speed of delivery, but by the comparative cost of energy or margin creation against options in the balancing mechanism. The value in the optionality of delaying an action until real time for system reasons may also be a positive, however the Balancing Mechanism also provides this, with considerably slower ramp rates. When considered in this wider context, the impact of large intra-period swings on interconnectors at fast ramp rates, could outweigh the system security benefits of inter-market energy transfers.</p>
3	Do you support the proposed implementation approach?	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Agree that restricting ramp rates to 50MW/min addresses the key objectives and would create a level playing field with BMUs.</p>
4	Do you have any other comments?	Ideally, a ramping market would be a good solution, which would allow the ESO to procure products from

	<p>other BMUs that could mitigate the impact of fast ramps on the interconnectors. This initiative should still be pursued in the interim as the introduction of fast reserve markets in the future would ultimately provide a better solution – this would facilitate wider participation, greater competition, and more options for the ESO. This is a longer-term objective, but one that needs fostering and therefore is better served through maintaining the original proposal. It is hard to see how future service providers can come forward without a market-based solution. In particular, at this time, some technologies that could help deliver these services are not sufficiently numerous (e.g. battery capacity could be utilised and eroded in one period – thereby not being available for subsequent system management issues) to deliver a viable solution. In respect to other technologies such as wind, the economics of providing such a service may not be symmetrical and therefore a competitive ramping market would at this time have a lack of depth and liquidity, beyond interconnectors. However, the longer-term potential justifies investing in creating a market-based solution which can draw upon a broad group of participants in future.</p> <p>The original solution therefore would be the best solution to meet the objectives. The current arrangements were agreed 30 years+ ago when the operational environment and system security were very different. The benefit to consumers and the improvement in operational and system security that comes from the suggested change would suggest that the status quo should not be retained.</p> <p>If the status quo is retained and interconnectors are allowed to continue ramping at 100MW/min, further changes are needed to ensure a fair and transparent approach. In particular, a process would need to begin for other BMUs to be able to operate at their technological capability. For example, wind generation can ramp at equivalent speed to the interconnectors. Therefore, if the status quo remains then other BMUs should also be compensated for slowing their ramping down, as interconnectors are currently. This would then remove an inherent asymmetry in application that currently exists, resulting in BMUs incurring imbalance charges that do not apply to interconnectors. These changes would have to be applied as soon as possible to ensure a fair and consistent approach.</p>
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5	Do you agree with the Workgroup's assessment that GC0154 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 <p>The introduction of GC0154 as per the original proposal meets the objectives of the EBR in respect to (a) to (e) as listed on page 2. It does not appear to deliver against (f) and (g) directly, albeit that it does level the playing field for renewable BMUs and demand response assets, all of which are limited by grid code currently.</p>
6	Do you have any comments on the impact of GC0154 on the EBR Objectives?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <p>The EBR objectives as stated, were to improve the integration of balancing services between TSOs. As it stands, GB generators are limited in their ability to provide these to other TSO, since the UK left the EU. Furthermore, it does not state that operational or system security should be sacrificed in pursuit of these objectives. Although we recognise that the CBA carried out by Baringa is in some respects, necessarily qualitative, in conjunction with the ESO's expertise in operating the system, their view should not be dismissed, indeed it should be afforded a higher weighting. Of course, all parties would like to be able to operate with maximum flexibility and some form of market mechanism would be optimal once the availability of a deep and liquid pool of flexible assets is sufficient. Until that time, the current arrangements discriminate against BMUs through the imposition of the 50MW/min ramp rate, despite the fact they have similar flexible characteristics as interconnectors, and this is not satisfactory. If Interconnectors retain the ability to ramp at 100MW/min then the same should be afforded to BMUs.</p> <p>Maintaining the current arrangements would continue to discriminate against BMUs who are unable to optimise the use of their technical capabilities. This is in direct conflict with the aims of the EBR.</p> <p>Much like the cap imposed on TNUoS charges for generation to ensure a level playing field across GB and the EU, the continuation of allowing 100MW/min on interconnectors but not allowing BMUs to also ramp at these speeds is discriminatory. If the status quo is retained, then BMUs should also be able to ramp at 100MW/min if their technical capabilities allow.</p>

