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Thursday 2 November 2023

GC0154: Incorporation of interconnector ramping requirements into the Grid Code as per SOGL Article 119

BritNed Development Limited (hereafter: BritNed) welcomes the opportunity to respond to the Code Administrator Consultation on GC0154: Incorporation of interconnector ramping requirements into the Grid Code as per SOGL Article 119.

BritNed has been an active member of the GC0154 workgroup and has provided our feedback throughout workgroup meetings together with the previous Workgroup consultation. As such, the views in this letter are in addition to the points that have been raised previously and please also refer to our previous response to the Workgroup consultation for greater background and detail to the answers attached to each question below.

In this Code Administration Consultation, we would like to emphasise the following summary of ongoing concerns over the implementation of the Original Proposal, also demonstrated throughout the Afry report, and to reiterate the benefits of implementing the alternative proposal known as WAGCM1.

BritNed and the wider workgroup continues to hold concerns around the ways in which the cooperation of workgroup members has been managed, the level of alignment with EU TSO counterparts, the completeness of the results of the CBA for market parties and the wider implications to “future proofing”. The concerns can be categorised into three main issues, specifically in the context of the overall role of interconnection as an essential part of the UK energy system:

- I. EU TSO alignment: There has been a lack of sufficient engagement with partner EU TSOs and therefore changes being considered in parallel by EU TSOs have not been

considered. This could create operability mismatches and risks damaging relations, where effective co-operation will be essential going forwards. This is exemplified by the expectation that the Day Ahead and Intraday power markets will move to lower MTUs in the coming years (e.g., EU will move to 15 minutes at DA in 2025) which will require more frequent ramping. Lowering the ramp rate to 50MW could negatively impact the flexibility of the market and as a result lead to welfare destruction and operability mismatches.

- II. Energy Security Risks: A proposal to reduce the ramp rate on interconnectors means reducing the speed and flexibility of Interconnectors in responding to system tightness and in most cases to match supply and demand between countries, reducing system imbalance.
- III. Insufficient CBA: Although a significant amount of work has been carried out to present the results of the initial CBA, there are several areas where the CBA has not quantified and covered deeply enough, particularly the operational risk, implementation costs and impacts to EU markets. There also does not appear to have been any meaningful consideration of the flexibility benefits that fast interconnector ramping can bring. These concerns are highlighted more appropriately and sufficiently in the Afry report.

Afry Report:

Despite the Afry report being concluded towards the finalisation of the overarching workgroup report, BritNed feels the outcomes of the Afry investigative report are essential to wider industry review and consultation for comparison to the initial CBA. Moreover, the outcome of Afry's work was provided to the workgroup as soon as feasibly possible. For the below key reasons, and for several other outcomes, the Afry report should be given due consideration by the ESO and Ofgem in their deliberations on GC0154.

- The Afry report could not replicate the findings in the initial CBA that there is a high correlation between cumulative interconnector ramping, balancing volumes and costs.
- The Afry report highlights conservative assumptions included in the initial CBA that would only serve to over-estimate the benefits of the original proposal – for instance it does not anticipate any future efficiencies in any changes to the procurement methods for response and reserve.
- The initial CBA does not include any negative impacts driven by limiting interconnector ramping. This is particularly important as connected energy systems require flexible assets for balancing purposes. As highlighted in our previous workgroup response and in the interconnector letter to Ofgem, it feels counter-productive to be limiting the flexibility of assets available to the ESO with future system flexibility a key concern.

In summary, BritNed wishes to highlight that the Afry report significantly re-enforces the shortcomings of the initial CBA and must be considered alongside it in the decision-making process for GC0154.

Furthermore, in line with our previous response to the Workgroup Consultation, BritNed believes that there are wider solutions that can be developed outside of the ramping

restriction context to help the issues that NGESO are facing but at the same time do not have the negative impacts of the original proposal that are highlighted in this response. These solutions should be developed with all involved synchronous areas' sides to ensure a correct and exhaustive system analysis from both sides.

BritNed remains committed to assisting in this area and is happy to engage in any such further efforts, as required to arrive at a sensible conclusion.

Should you have any further questions or wish to discuss our responses in more detail, please do not hesitate to contact us at jack.grant@britned.com or vera.stam@britned.com.

Yours sincerely,

Gineke Van Dijk,
Commercial Director,
For and on behalf of BritNed Development Limited

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	
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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 checked="" 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 type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E

	against the Applicable Objectives?	WA(G)CM1	<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
			<p>Please see the BritNed working group consultation response and below responses for more detailed reasoning, but in summary:</p> <p>BritNed believes WAGCM1 is a more future proof solution in the light of flexibility being a key necessity in the energy transition. Implementing the Original Proposal (50MW/min) could undermine the well-established benefits to system flexibility and security of supply provided by interconnectors. It is our view that any change to the existing ramp rate needs to be reasonable and proportionate. The Workgroup Alternative Proposal (WAGCM1) will effectively codify the current 'status quo' for ramping arrangements – 100MW/min – without precluding future potential discussions on the challenge highlighted by NGESO.</p> <p>WAGCM1 fully meets the requirements of Ofgem's August 2019 decision on the implementation of the SOGL. The original does meet the requirements to the extent that something will be codified, although Ofgem states in its letter that "... the current provisions contained into the Grid Code or in the proposed intermediate methodology cannot be deemed to constitute a change to existing GB requirements and arrangements."</p> <p>Whilst BritNed recognises the challenges TSOs face in managing an increasingly complex electricity system, limited examples have been presented by NGESO to demonstrate the challenges faced, alongside insufficient quantitative data demonstrating the extent and significance of the challenge. Our view is that any steps to further restrict interconnector ramping must only be taken following a robust, comprehensive assessment of the impacts of any such proposals, undertaken in close cooperation with affected EU partners.</p> <p>BritNed views that the conducted CBA by NGESO is not complete enough to make such decisions as it does not consider the wider operational impact on connected markets, all cost impacts for end consumers and trading costs on interconnectors as such. More widely than this, we are concerned that the CBA overestimates the benefits by omitting key considerations from the assessment. This includes but is not limited to: (i) not accounting for future changes to the GB grid, market conditions or market design (i.e., battery technology, REMA); (ii) not accounting for changes in connected markets (i.e., 15-minute MTUs); (iii) the impact on</p>

		<p>interconnector imbalance costs, (iv) an assessment of the likely impact on balancing costs in connected EU markets, and (v) implementation costs and risks.</p> <p>This uncertainty and doubt around the ESO commissioned CBA is reaffirmed by the recent AFRY report, which can be found in the Annex of the wider working group report. It highlights several areas of concern and inconsistencies in the initial CBA that will be noted within this response and can also be found in the GC0154 portal on the ESO website.</p> <p>With the proposed approach, interconnectors will need to consider restricting changes in market positions between hours to certain levels to not face increased imbalance costs. This again will introduce additional barriers to cross border trading and social welfare optimisation between Bidding Zones.</p>
2	Do you have a preferred proposed solution?	<p><input type="checkbox"/>Original</p> <p><input checked="" type="checkbox"/>WA(G)CM1</p> <p>WA(G)CM1 is BritNed's preferred proposed solution. Primarily, as noted in the AFRY report, the scale of potential consumer cost savings identified in the CBA is expected to reduce in the second half of the 2020s (and potentially beyond the period considered). As noted on page 16 of the AFRY report, the decreasing trend of total balancing costs show that the benefits of implementing a static ramp rate of 50MW/min almost halves in the second half of the 2020s, further demonstrating why WA(G)CM1 is BritNed's preferred solution.</p> <p>Similarly, BritNed has reason to be concerned and ultimately unsure of the original proposal benefits highlighted in the initial CBA. The high correlation between IC cumulative ramping and balancing volumes presented in the ESO CBA assessment could not be replicated in the AFRY report based on their understanding of the methodology from available information. Their historic review of year 2022 does not reveal correlation between these two conditions. Given the role of this correlation in the CBA, further transparency on its derivation will be helpful for upcoming considerations of GC0154.</p> <p>Similarly, the consideration of potentially negative impacts of limiting IC ramping to 50MW/min on system adequacy or flexibility is not clear, or at least the ESO have not demonstrated the impact it could have. Based on the expectation that future needs for flexibility will increase, potential negative impacts of limiting IC ramping in these regards may be more significant in time. AFRY's 2023 Q2</p>

		<p>projections show that limiting IC ramping at 50MW/min could mean reduced system capability of matching demand in more than 10% of the time. By implementing this ramping limit, interconnectors could only match this pace cumulatively, not individually.</p> <p>Combined with the possible balancing costs savings reductions referred to above, potential benefits and the differences between options assessed may both be expected to become less significant.</p>
3	Do you support the proposed implementation approach?	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>BritNed considers that any implementation of the Original Proposal would present with potentially deteriorating consequences and risk materialisations in a number of areas as outlined within this consultation response. Implementation feasibility on interconnector side is unclear and potentially infeasible - especially for those using explicit capacity sales (unlike implicit mechanism where ramping restriction can be embedded in the coupling algorithm). This is especially the case when ramping restrictions could lead to a structural mismatch of the commercial schedule and the physical flows. In any case interconnectors will face increased pre-programmed imbalances which cannot be fully avoided.</p> <p>The implementation of WAGCM1 can be done instantaneously as there is no operational/system change for BritNed. The proposer's solution could need more time as the connecting EU TSOs need to confirm the new approach and interconnectors would be required to develop, test, and implement changes to existing control systems.</p>
4	Do you have any other comments?	<p>BritNed is concerned about several areas of the ongoing working group on GC0154. We have referenced these concerns throughout the history of the working group via letters to Ofgem, and previous consultation responses, whilst continually voicing key issues within the working group.</p> <p>BritNed sees the original proposal as a step back in flexibility on the interconnectors. The alternative proposal will initially have a neutral impact as there is no change to the ramping rate. Although, there is the possibility for positive impacts once a market-based ramp service is developed. Interconnectors are often highlighted as a key enabler to share surplus renewable energy, but also offer the flexibility to react quickly to intermittent power supplies. We see from our customers and stakeholders a general movement toward shorter market</p>

timeframes to help with managing this increased renewable power intermittency. EU TSOs, such as TenneT, are currently preparing to move to shorter lead times on all NL borders, which is supported by NL energy associations such as Energie Nederland. It is also understood that in the future the market is going to move towards lower MTUs to better handle the variability of Renewable Energy Sources. A lower ramp rate would restrict the market in its ability to function optimally, as some flow changes would not be possible as a result. The benefit of flexibility and interconnector flexibility, primarily in managing the growing level of wind generation in GB, was highlighted by the ESO themselves in NGESO's 'Future of Interconnection' study, where NGESO-commissioned analysis conducted by AFRY stated that "ramping constraints in the system at each side of the interconnector" are a barrier to realising the system flexibility benefits interconnectors can offer.

We are concerned by feedback that we have received from EU counterparts, and the practical impact of ramping constraints alongside EU fixed ramping periods for the viability of cross-border infrastructure. In particular, this could make it more difficult to deliver the complex offshore infrastructure with our European partners in the North Sea that will be essential to deliver the UK and EU's renewable targets. This would be at odds with the recent direction taken by the UK Government and their signature of the Ostend Declaration in April 2023 and the Government's post-Brexit priority of engagement with the North Sea Energy Co-operation platform as agreed in a Memorandum of Understanding in December 2022. It is crucial we keep a collaborative engagement with EU partners on North Sea energy infrastructure.

BritNed is also concerned that limiting IC ramping could potentially result in higher balancing costs and lower system's security on more than 10% of the time in line with AFRY's assessment in the afore referenced report.

Net demand usually has an impact on flows, as periods of high net demand (combination of high demand and low-RES output) tend to experience high prices, thus resulting in imports. Limiting the ramp rate of IC could potentially result in higher costs for ESO when the net demand changes quickly. If demand is growing at a fast pace and IC can import at a similarly fast pace, there could be potential savings by avoiding starting flexible thermal plants (e.g., engines). These savings could potentially be significant as turning on and

		<p>synchronising a thermal plant is among the more expensive actions taken in the BM.</p> <p>Beyond potential cost savings, there could be an impact on system security (adequacy) if IC ramping capabilities are limited. In periods of fast-growing net demand (when prices are likely resulting in imports into GB), faster ramping IC could potentially balance the system quicker, avoiding a potential drop in frequency and making sure the demand is met safely. As mentioned earlier in our response, “AFRY’s 2023 Q2 projections show that limiting IC ramping at 50MW/min could mean reduced system capability of matching demand in more than 10% of the time. By implementing this ramping limit, IC could only match this pace cumulatively, not individually”. Long-term projections show that these periods (when net demand grows faster than the new IC ramp limit) will increase in the future, particularly beyond the years considered in the existing CBA assessment. This could exacerbate the adequacy limitations of the system even more if IC are not allowed to ramp faster to counterbalance the fast change of net demand.</p>
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?	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>As provided in the previous response to the Workgroup Consultation, we believe the following impacts to the EU side have not been analysed:</p> <ul style="list-style-type: none"> • Financial impact: adaptation of ramping rate will affect the area control errors (ACE) which will have financial consequences via the financial settlement of unintended exchanges (FSUE). In addition, imbalance prices & balancing markets in general can be affected because of the real-time imbalance volumes created. • Operational security impact: changing the ramp rate could impact on frequency quality in Europe and GB which will have an impact on system stability & security. <p>We understand that the EU TSOs do not feel that adequate analysis has been made to assess the impact on the financial and system security perspective to the EU side if the current ramping limit is reduced. We urge NGESO to take into accounts feedback from the EU TSOs, in particular the ENTSO-E System Operation Committee sub-group concerned</p>

		with synchronous area, either via direct bilateral engagement or from their responses to this consultation.
6	Do you have any comments on the impact of GC0154 on the EBR Objectives?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <p>While in principle both options would be non-discriminatory and transparent, simply codifying a static ramp rate is not market based as mentioned under EBR art 3 (e). The proposed alternative solution addresses this by first codifying 100MW/min whilst enabling the continued flexibility of discussion around potential market-based solutions to address the operational challenges raised by NGESO. Furthermore, we believe that the proposer's solution does not fulfil as indicated the requirements on:</p> <ul style="list-style-type: none"> - Lower bills than would otherwise be the case. - Benefits for society as a whole; - Improved quality of service. The proposed NGESO solution does have a negative impact on the wider connected energy system and its respective consumers leading to higher system charges for additional balancing and imbalances on GB and EU side. <p>Additionally, it will force interconnectors to consider the implementation on flow change restrictions between hours and therefore limit the capacity available for trade to the market. This again will then lead to social welfare losses and a less well functioning market, especially when considering that more volatile renewable energy infrastructure would require fast changing market positions to optimise its use. Finally, the proposal sends a negative investment signal to all future (multi-Purpose) interconnector projects.</p>