

Response to NETS SQSS Review Consultation	
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<b>Q1. Please provide your comments/feedback and suggestions related to the topics raised in Section 3.1 Offshore Transmission System.</b>	
<p>We are not directly involved in or impacted by issues and/or investment in the offshore transmission system and as such have little comment on the proposed 1800MW loss of infeed risk limit.</p> <p>However, we note the importance of a coordinated approach to ensure optimal and efficient investment. The SQSS should not wait to ensure coordination with the offshore network, but should, where feasible and prudent, be proactive.</p>	
<b>Q2. Please provide your comments/feedback and suggestions related to the topics raised in Section 3.2 Demand Connection Criteria.</b>	
<p>The discrepancies between the SQSS and the demand connection standard is a significant issue. Of course, it is important that there is coordination between approaches at the distribution and transmission levels in terms of investment criteria and standards. With the move toward net zero and the need for a full energy system approach to network design and management it is clear that the disjointed approach will only hamper efforts to optimise the trajectory to a net zero system. This would appear to be self-evident.</p> <p>Our company provides storage capability. We believe that storage is and will be a critical part of the future energy system, enabling more and more intermittent renewables to connect and operate most efficiently. Without storage capability, NGESO must pay more to turn down intermittent generation than it otherwise would. This cost is of course carried through to the consumer. In addition, without appropriate levels of storage capability, when the wind isn't blowing or the sun isn't shining, NGESO will need to unnecessarily rely on fossil fuel generation. This is clearly not aligned with the net zero ambitions.</p> <p>Those outcomes are in large part avoidable. Simply ensuring that there is synchronicity between the DNOS and TOs in terms of the definition of demand (gross vs net) and assumptions regarding demand security will improve the pace at which storage connects.</p> <p>The SQSS should also allow for equivalency in the ability for TOs and DNOS to engage in commercial contracts. Again, this is self-evident from the perspective of full energy system coordination and optimisation and the net zero targets.</p>	
<b>Q3. Please provide your comments/feedback and suggestions related to the topics raised in Section 3.3 Generation Connection Requirements.</b>	
<p>The proposed amendments to the rules regarding transmission connections to explicitly include the impact of interconnectors and storage on the system, and implications for loss of infeed risk criteria are very sensible and obviously required.</p> <p>We note the reference to the stakeholder engagement the TOs engage in with storage operators (and interconnectors) regarding asset operations and scenario planning. This is important work. The requirement should be formalised in the SQSS as an integral part of scenario planning.</p>	
<b>Q4. Please provide your comments/feedback and suggestions related to the topics raised in Section 3.4 Main Interconnected Transmission System.</b>	
<p>There is not enough information available regarding proposed changes to Section 3.4. However, we note that there is intention to look at the contribution of storage to the system, in</p>	

terms of MWh capacity. There should be stakeholder engagement on this point – preferable a workgroup – to ensure that the SQSS adopts a well-considered approach.

We agree that it is appropriate to consider commercial services in calculating transmission capacity. This approach would be in line with a move away from the traditional power system model to one that is more diverse, and with different technologies offering different types of value propositions to the system i.e., capacity, inertia, frequency response, etc.

**Q5. Please provide your comments/feedback and suggestions related to the topics raised in Section 3.5 Operational Standards in England and Wales.**

We agree that relaxing the operational standard in E&W to that of Scotland should be carefully studied to ensure that the short- and long-term impacts are beneficial to the investment climate in relation to achievement the net zero target and in cost – the consumer relies on good decision made now.

**Q6. Please provide your comments/feedback and suggestions related to the topics raised in Sections 3.6 Introduction of CATO.**

No comment.

**Q7. Please provide your comments/feedback and suggestions related to the topics raised in Sections 3.7 Governance.**

We fully agree that this is a sensible suggestion. Each TO licence change requires Ofgem time, not to mention the TOs, and so where these administrative and statutory requirements can be reduced, without impact of efficacy, they should be. It should be sufficient for the licence to refer to the SQSS where appropriate, then to update the licence every time there is a change to the SQSS.

We would much prefer that Ofgem spends their time approving mods stuck in the queue and moving forward with smart and well-resourced network charging designs, for example.

**Q8. Which of the proposed modifications will have the most significant impact on your operations/investment plan? To what extent would that impact be?**

The most important aspect of this review is the review between the relationship between storage and demand/generation capabilities. When considering the impact of storage behind a constraint, (i.e. Scotland) it is not appropriate to assume that storage will be generating when the wind is blowing. Not only is this situation very unlikely, but in fact, storage acts as a natural constraint mitigator. Where there is excess generation behind a constraint, storage acts as the sponge, mopping up excess power. The system design should reflect this, and the SQSS should enable this attribute and benefit to the system to be monetised (i.e., through commercial contracts) rather than penalised through network planning standards.

Further, one can consider storage capacity as (roughly) double nameplate when actively either importing or exporting. For example, a 20MW storage asset can flip from importing 20MW to exporting ~20MW within seconds – in this case a total benefit to a short system of ~40MW. The SQSS should recognise this in terms of the approach to system design and commercialisation.

The scaling factors and how these drive the need for transmission capacity are therefore critical in our view. There is ample justification for considering storage differently to generation as it generally operates to ‘help’ the network (ie counter to non-dispatchable generation)

**Q9. Are there any other areas that require review and may act as a barrier for net zero in NETS SQSS?**

Section 2 (Generator Connections)

1. Consideration of Largest Infeed Loss needs to consider degree of interconnection with neighbouring countries and vulnerability to failure of a single county's grid

2. Risk exposure to any single manufacturer (e.g. widely deployed common hardware, manufacturer's control room and ability to control many GW of GB generation from a location outside GB)
3. Multiple FRT capability – how to implement / define

Section 4 (MITS):

4. Incorporate use of D and T connected storage into NOA methodology as alternative to transmission investment

Section 5 (Operational Standards):

5. Whether following the SSR event in Aug 2021, there is a need to define a minimum System Strength to ensure generators meet their FRT capability and enable it to meet Power Quality requirements elsewhere in the SQSS.
6. Maximum MW ramp rates for very large offshore wind farms (?) (similar to interconnector ramping limits?)

**Q10. Do you agree with the priorities and the delivery timescales described in Section 4? If not, please provide additional information that could allow us to revise the priorities.**

We are happy to see that NGENSO considers the demand connection criteria and alignment with the DNO demand connection standard as “quick wins” and with a target completion date of the end of 2022.

As noted above, the operational standards in E&W, and the consideration of storage capability should involve extensive stakeholder engagement. We presume that the three-year proposed timeline is not a matter of leaving the issue aside and coming back to it later, but instead will entail a commitment to extensive industry involvement. It is important that NGENSO reaches out to parties who have not historically been engaged in developing the SQSS but who are bringing new technologies to the market.

This consultation is available online here: [NETS SQSS Consultation](#)

Please return responses to [box.SQSS.Review@nationalgrideso.com](mailto:box.SQSS.Review@nationalgrideso.com) before 5pm on 9<sup>th</sup> March 2022.