

**FRCR Methodology Consultation Response Proforma****FRCR Methodology Consultation**

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 [box.sqss@nationalgrideso.com](mailto:box.sqss@nationalgrideso.com) by **5pm on Wednesday 13 January 2021**. 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 Robert Wilson [Robert.Wilson2@nationalgrideso.com](mailto:Robert.Wilson2@nationalgrideso.com) or [box.sqss@nationalgrideso.com](mailto:box.sqss@nationalgrideso.com)

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

FRCR Methodology Consultation questions		
1	Overall, do you agree that this methodology will allow the preparation of an appropriate FRCR? (as required by modification GSR027)	<p>No as currently drafted its fails to address the whole system cost associated with controlling system frequency and voltage. The methodology also fails to address the technical alternatives in terms of potential mitigants (fast delivery of response, slower delivery of response, use of demand side measures increase in use of inertia machines, use of demand flexibility) and implies that that the ESO “dynamic containment service” is the optimal solution.</p> <p>This document is the methodology used to assess the cost of various measure solve the frequency /voltage problems. It may be that dynamic containment is the most cost reflective solution but to start with the premise that is it simply fails to recognise the purpose of the methodology.</p> <p>The reference to ESO product design and reserve review are inappropriate and effectively forestalls the purpose of this document and need to be removed. This is a technical document that needs to present a methodology to determine the whole</p>

		<p>system costs to ensure a stable operation of the system.</p> <p>The document refers to only one element of cost that the consumer faces (BSUoS) For example the cost of delivered frequent response from [batteries] is the CM cost + BSUoS. The BSUoS cost is the much smaller element and is the only cost considered. Batteries are typically constructed to meet the ESO procurement need as such including the CM cost is relevant. Other recipients of CM income actively trade in the various markets as such the CM cost is less relevant.</p> <p>The cost of inertia from synchronous machines that is currently provided “for free” need to be calculated and the methodology developed in this area to ascribe a fair or negative value to this solution.</p> <p>Some types of plant can provide multiple services (inertia, frequency response bulk energy) . The methodology makes no attempt to develop a methodology to value this.</p> <p>The limited energy available from new sources of response [batteries] will potentially result in an inability to deal with more sustained events or multiple events in a short period of time this issue should be quantified. The 27<sup>th</sup> May 2008 event was a sustained low frequency event and most if not all of the batteries would have been exhausted well before this event concluded.</p> <p>At a macro level again the cost associated with a [99%] reliable service compared to a [98% ] reliable service need to be quantified in a similar way the assessment of black start</p>
2	To help structure comments, what is your feedback on the following sections of the methodology?	Please use the boxes below for the bullet points in questions numbered 2a-2j
2a	<ul style="list-style-type: none"> <li>Aim</li> </ul>	<p>Need to develop the cost/benefit argument.</p> <p>The definition of cost only refers to the cost of ancillary services (BSUoS) not the whole system cost. Contracting with a unit to provide a single</p>

		<p>specific services compared to a unit that provides multiple services has not been factored in (reduces the apparent cost) or the capacity cost associated with specific services compared to the obtaining services from energy market participant/ CFD supported provider.</p> <p>The SQSS is a technical document and reference to the ESO procurement methodologies is not relevant [Dynamic Containment] and need to be removed and replaced with technical considerations.</p> <p>Analysis that show how the volume/capacity required to manage events with different product delivery times need to be required in the FC Report.</p>
2b	<ul style="list-style-type: none"> <li>Impacts</li> </ul>	<p>This section should also include the ability to recover from an event with reserve as well as the need to secure for a sustained low frequency event that lasts for several hours or multiple events over a short period of time. The 9<sup>th</sup> August event was primarily driven by the lack of “fast” reserve rather than the initial frequency deviation.</p> <p>The 27<sup>th</sup> May 2008 event was a sustained low frequency event and most if not all of the batteries would have been exhausted well before this event concluded.</p>
2c	<ul style="list-style-type: none"> <li>Events and loss risks</li> </ul>	<p>This section need to be expanded to deal with unknown risks principally (major physical/atmospheric events, cyber events) whilst we don't know how or where they will occur additional quantities of fully flexible plant above and beyond those required for the known events will also be held.</p> <p>The energy limitation of new sources of frequency response need to be explored to establish the probability of a sustained or multiple events being accommodated.</p> <p>Insatiability of the system where large volumes of identical frequency response is active should also be explored.</p> <p>Reference to ESO procurement of services need to be removed this is a technical documents the</p>

		<p>frequency control report may identify they certain services are cost reflective solution. The methodology should provide the opportunity for the ESO to justify its conclusion and not pre-judge the outcome.</p> <p>Much of the new sources of frequency response are distribution connected the FCR should demonstrate that this type of plant will deliver for real world events</p>
2d	<ul style="list-style-type: none"> <li>Controls</li> </ul>	<p>Reference to the whole system cost of mitigants for the various events is required. The BSUos cost is a just one element of this. Plant that provide multiple service (truly flexible plant ) need to be considered as this will significantly reduce the overall cost.</p> <p>The time scales or response delivery as well as use of demand side measures and increase use of inertia machines should also be considered this will help identify if the ESO “dynamic containment service” is the most cost effective solution.</p>
2e	<ul style="list-style-type: none"> <li>Metrics for reliability vs. cost</li> </ul>	<p>Costs need to be consumer whole system cost not just BSUoS cost, work undertaken by the black start task force on looking at cost of system blackout need to be included.</p>
2f	<ul style="list-style-type: none"> <li>Analysis - general approach and assumptions</li> </ul>	<p>The whole system cost needs to be included not just BSUoS. e.g. a synchronised unit provides inertial as well as many other services the ESO assessment process does not take account of this and only includes the cost of providing inertia from a shutdown unit. This is not a reasonable assessment and fails to value the benefit of units that provide multiple services or inertia when delivering energy</p>
2g	<ul style="list-style-type: none"> <li>Analysis - step-by-step</li> </ul>	<p>OK if the inputs are right but whole system cost is missed out and specific references to dynamic containments again need to be removed..</p>
2h	<ul style="list-style-type: none"> <li>Outputs</li> </ul>	<p>See previous comments</p>
2i	<ul style="list-style-type: none"> <li>Future considerations</li> </ul>	<p>See above</p>
2j	<ul style="list-style-type: none"> <li>Input and data sources</li> </ul>	<p>See above</p>
3	<p>How well will this methodology address its three key aims?</p>	<p>Please use the boxes below for the bullet points in questions numbered 3a-3c</p>

3a	<ul style="list-style-type: none"> <li>establish a clear, objective, transparent process for assessing reliability vs. cost to ensure the best outcome for consumers</li> </ul>	<p>The cost methodology is not fit for purpose as it only includes BSUoS cost not whole system cost. It does not value flexibility of service provision or the cost of serves from different provides (e.g inertial) in a meaningful way.</p> <p>The report needs to also ensure the methodology deals with:-</p> <ul style="list-style-type: none"> <li>Energy limited response /multiple events</li> <li>Instability resulting from large volumes of identical response</li> <li>Demand side response or other alternative to tradition response</li> <li>Speed of response</li> <li>Ability to recover the system after the frequency response providers are exhausted: - a key driver to the 9<sup>th</sup> August event</li> </ul>
3b	<ul style="list-style-type: none"> <li>make the assessment of the risk from the inadvertent operation of Loss of Mains protection transparent</li> </ul>	Increases transparency but does not consider other events (eg cyber physical etc) so is limited in application
3c	<ul style="list-style-type: none"> <li>identify quick, short-term improvements for reliability vs. cost</li> </ul>	Poor at this as it again missed the high cost associated with UK investing in plant that con only provide one specific served and will encourage the development of inflexible plant. Much of the new sources of frequency response are distribution connected the FCR should demonstrate that this type of plant will deliver for real world events
4	Do you have any other comments?	This needs to be significantly re-worked before it can be presented to the authority.