

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 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 or box.sqss@nationalgrideso.com

Respondent details	Please enter your details
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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)	Click or tap here to enter text.
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	• Aim	Click or tap here to enter text.
2b	• Impacts	Consumers and consumer organisations are mentioned in impacts. The explanation of the issues are targeted to readers with significant technical knowledge. If engagement with consumer organisations is required better targeted communication materials may be required.
2c	• Events and loss risks	Click or tap here to enter text.
2d	• Controls	Click or tap here to enter text.

2e	<ul style="list-style-type: none"> Metrics for reliability vs. cost 	Click or tap here to enter text.
2f	<ul style="list-style-type: none"> Analysis - general approach and assumptions 	
2g	<ul style="list-style-type: none"> Analysis - step-by-step 	Click or tap here to enter text.
2h	<ul style="list-style-type: none"> Outputs 	Click or tap here to enter text.
2i	<ul style="list-style-type: none"> Future considerations 	<p>In future versions it may be useful to consider following the structure and terminology of a Failure Mode Effects Analysis (FMEA). For example, see the approach described in section 1.2 https://www.nationalgrid.com/uk/electricity-transmission/document/134406/download</p> <p>The existing version has elements of this, but an ISO standards-based approach to risk management may offer benefits.</p> <p>Load steps will produce frequency deviations, similar to those due to loss of generation resources. The frequency control policy does not define the maximum load step that frequency control mechanisms are designed to accommodate.</p> <p>The risks associated rapidly changing nature of loads should be considered. For example, there may be increasing risk of load disconnection caused by in advertent operation of protection systems in loads connected via complex electronic control systems. These may include EV chargers, Smart Energy Appliances, motors with variable speed drives, outflow to interconnectors and distributed energy storage systems etc.</p> <p>It would be useful if the link between frequency and voltage was explicitly mentioned in the document. As the grid becomes weaker, as the number of high inertia rotating generators reduces, frequency and voltage changes may become more tightly coupled than has been in the past. Voltage disturbance will have an impact on consumers. This may be a minor flicker of a light to internet router reset. Most loads are not frequency sensitive in the range 49 to 51Hz.</p> <p>Within the general strategy it would be useful mention explicitly the use of demand side response. For example the frequency response section 6.6.1</p>

		mentions delivering more or less power only. It does not mention consuming more or less power.
2j	<ul style="list-style-type: none"> Input and data sources 	Click or tap here to enter text.
3	How well will this methodology address its three key aims?	Please use the boxes below for the bullet points in questions numbered 3a-3c
3a	<ul style="list-style-type: none"> establish a clear, objective, transparent process for assessing reliability vs. cost to ensure the best outcome for consumers 	Click or tap here to enter text.
3b	<ul style="list-style-type: none"> make the assessment of the risk from the inadvertent operation of Loss of Mains protection transparent 	Click or tap here to enter text.
3c	<ul style="list-style-type: none"> identify quick, short-term improvements for reliability vs. cost 	Click or tap here to enter text.
4	Do you have any other comments?	Click or tap here to enter text.