

# Tender Questionnaire

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# Volume Uncapped Procurement

## Phase 1 Status

- Tender award letters issued April 10<sup>th</sup>
- Schedule 9 development in progress
- Some test report submissions outstanding

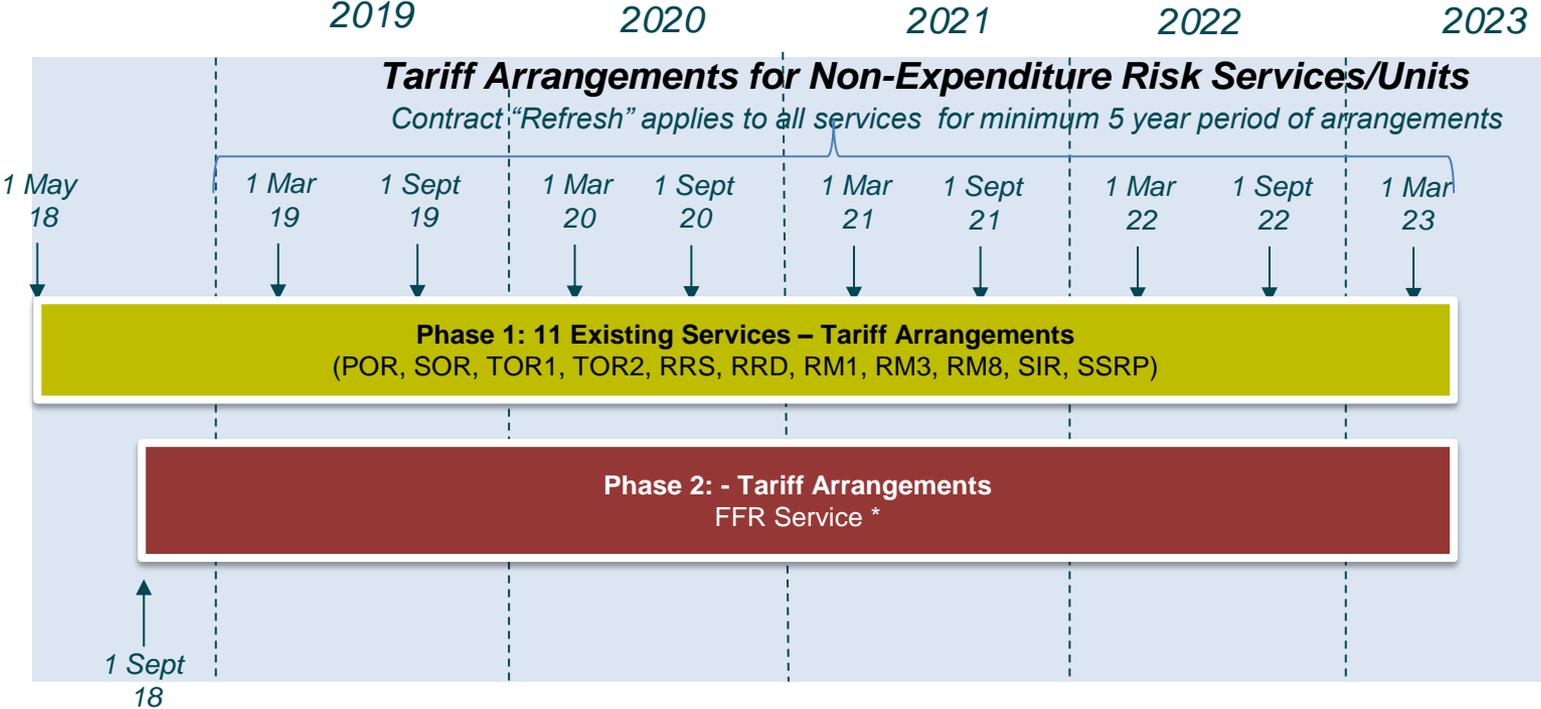
# Volume Uncapped Procurement

## Phase 2

- FFR service only being procured
  - FPFAPR and DRR will be procured in a future gate as services are only remunerated when operational SNSP > 70%
- Term of Phase 2 contracts will be up to April 30 2023 (4 years 8 months)
- Same contractual arrangements as for Phase 1
  - Some additions to Schedule 9 Parameters



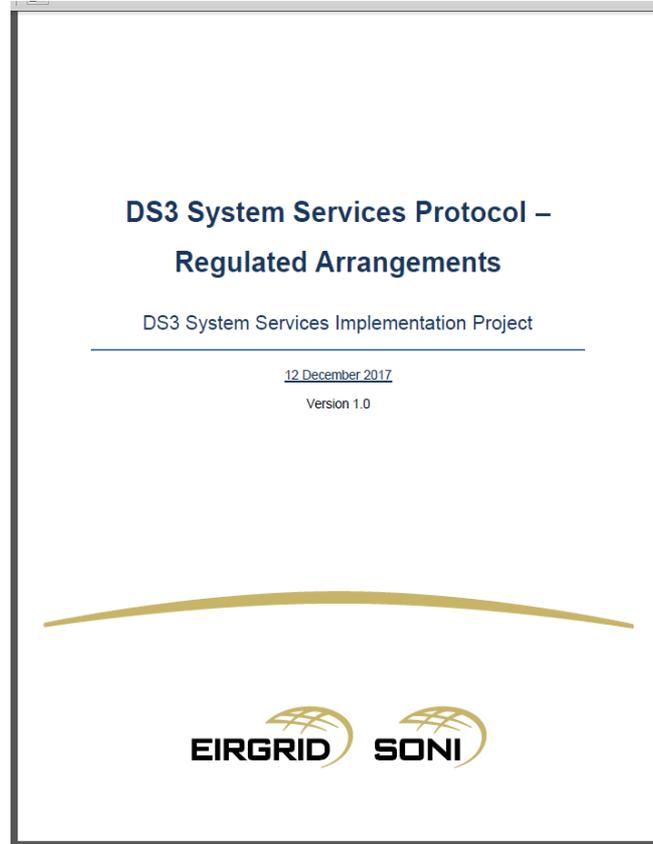
# Regulated Arrangements Volume Uncapped Timeline



\* It is intended to add FPFAPR and DRR services at a future procurement gate



# Contractual Arrangements



# Regulated Arrangements Contractual Arrangements

## DS3 System Services Contract

- Standard contractual provisions
- Term
- Schedules for 14 DS3 System Services
- Scaling Factor details
  - Product Scalars
  - Locational Scalar

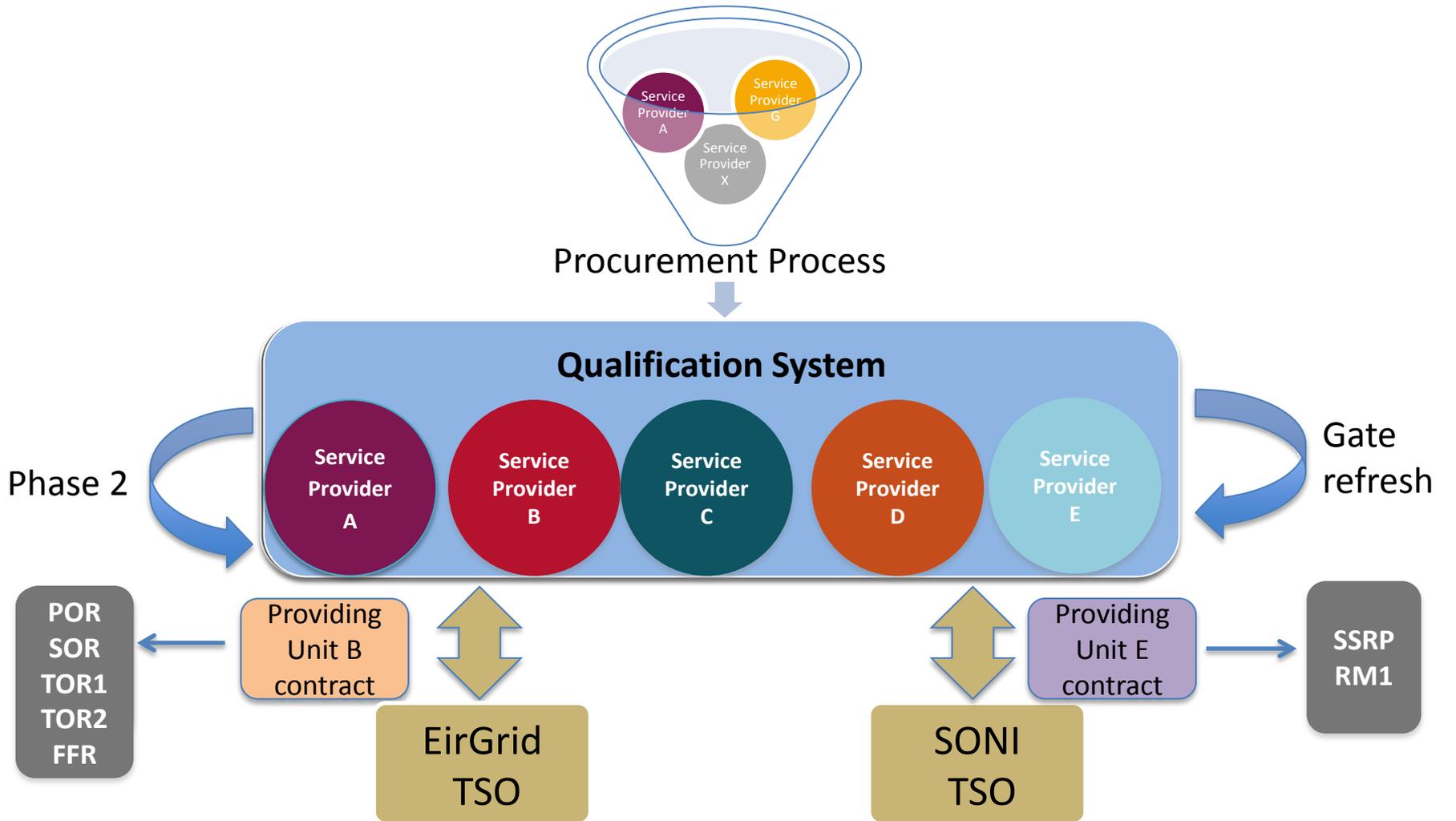
## Protocol Document

- Operational Requirements
- Performance Scalar Details
- Performance Monitoring Methods and infrastructure requirements
- Temporal Scarcity Scalar values
- Governance

## Statement of Payments

- DS3 System Service Payment rates

# Volume Uncapped Procurement



# Technical Questionnaire - Guidance Sheet

SECTION A in each lot must be completed by a Tenderer that wishes to contract for that lot. This is a PASS/FAIL questionnaire. It will be at EirGrid's sole discretion to request clarification on any technical information provided and subsequently decide whether the technical response is sufficient to achieve a Pass for that requirement. A Tenderer that fails on any one question will be disqualified.											
SECTION B (Applicable for Distribution Connected Providing Units only) in each lot must be completed by a Tenderer that wishes to contract for that lot. This is a PASS/FAIL questionnaire. It will be at EirGrid's sole discretion to request clarification on any technical information provided and subsequently decide whether the technical response is sufficient to achieve a Pass for that requirement. A Tenderer who fails on any one question will be disqualified.											
SECTION C in each lot is for information purposes. However, unless otherwise stated in Section A, it must be completed in its totality. The Section C questionnaire is to facilitate the contracting process, and must be completed by a Tenderer that wishes to contract for that lot.											
Where relevant, a Tenderer should provide details of the Providing Unit as it is registered in the SEM e.g. in the case of a three-shaft CCGT that is registered in the SEM as two units, each unit is separately a Providing Unit and details should be supplied accordingly.											
Tenderers should complete all orange cells. If not applicable please indicate N/A. In some instances this is part of a drop down menu.											
FOR COMPLETION BY TENDERER											
Service Provider											
Providing Unit											
ID in SEM (if applicable)											
<p>If the Providing Unit is connected to the Ireland/ Northern Ireland Distribution System or will be before 1 September 2018, the TSO will share all information relevant to DSO/DNO approvals with the DSO/DNO (as applicable), unless the Tenderer does not wish them to do so. If the Tenderer does not wish the TSO to share information relevant to DSO/DNO approvals with the DSO/DNO, Tenderer must respond NO. If Tenderer agrees for relevant information to be shared with the DNO/DSO, Tenderer must respond YES.</p>		<p>If the Tenderer replies NO (i.e. does not give permission for the TSO to share this information with the DSO/DNO (as applicable)), the Tenderer must complete Section(s) A of the Procurement Questionnaire for the lot(s) for which it is applying and must submit it to the DSO/DNO (as applicable) by 29th May 2018. This information may be submitted either in written or electronic format to the following address (as applicable):</p> <p><b>EirGrid Contracts (DSO-connected Tenderers) submissions to:</b>                  Pádraig Lgons                  ESB Networks Leopardstown                  Leopardstown Rd                  Foxrock                  Dublin D18 XN80</p> <p><b>Electronic submission:</b> Submission via email is also acceptable. A signed copy should be sent to padraig.lgons@esb.ie. no later than May 29th 2018.</p> <p><b>SONI Contracts (DNO-connected Tenderers) submissions to:</b>                  David Hill                  NIE Networks Ltd                  Carn Industrial Estate                  Portadown                  Co. Armagh                  BT63 5QJ</p> <p><b>Electronic submission:</b> Submission via email is also acceptable. A signed copy should be sent to David.hill@nienetworks.co.uk no later than May 29th 2018.</p>									
PLEASE COMPLETE THE FOLLOWING GUIDANCE TABLE AS APPROPRIATE; THIS IS TO ASSIST THE TENDERER TO COMPLETE A SUCCESSFUL TENDER AND TO ALLOW THE TSO TO ASSESS THE INFORMATION FOR COMPLIANCE											
IRELAND						NORTHERN IRELAND					
FFR		CONFIRMATION		LOT12(NI) FFR		CONFIRMATION		FFR		CONFIRMATION	
ARE YOU APPLYING FOR THIS LOT?		HAVE YOU COMPLETED THE TECHNICAL QUESTIONNAIRE?		HAVE YOU FILLED IN THE APPROPRIATE RESERVE CHARACTERISTIC INFORMATION (WHERE APPLICABLE)?		ARE YOU APPLYING FOR THIS LOT?		HAVE YOU COMPLETED THE TECHNICAL QUESTIONNAIRE?		HAVE YOU FILLED IN THE APPROPRIATE RESERVE CHARACTERISTIC INFORMATION (WHERE APPLICABLE)?	

Section A is Pass/Fail for all units

Section B is Pass/Fail for distribution-connected units

Section C is for information but must be completed as specified

TSO will share relevant information with the DSO/DNO if tenderer agrees



# Technical Questionnaire- (Section A)

	A	B	C	D	E	F
1	<b>INSTRUCTIONS FOR COMPLETING THIS SHEET.</b>					
2	<b>PLEASE COMPLETE ALL ORANGE FIELDS. IF NOT APPLICABLE, PLEASE TYPE IN "N/A"</b>					
3	<b>PLEASE PROVIDE CROSS REFERENCE TO SUBMISSION WHERE ADDITIONAL</b>					
4	<b>PLEASE SCROLL DOWN FOR SECTIONS B &amp; C.</b>					
5	<b>FAST FREQUENCY RESPONSE (FFR) SECTION A - PASS/FAIL TECHNICAL QUESTIONNAIRE</b>					
6	<b>Q No</b>	<b>Description</b>	<b>Response</b>	<b>Parameter</b>	<b>Minimum Evidence Required to demonstrate compliance</b>	<b>Please provide document name, location and cross reference number in submission for</b>
7						
8	1.1	Is the Providing Unit's technology designated as "Proven" for the FFR service on the DS3 System Services Proven Technologies List?			<b>Tenderer must respond YES or NO.</b> <b>If Tenderer responds YES, Tenderer must provide information (1000 words maximum) on the Providing Unit's technology as evidence.</b> <b>If Tenderer responds NO, Tenderer must provide evidence (1000</b>	
9	1.2	Is the Providing Unit a Demand Side Unit (DSU)? Note: Individual Demand Sites must be part of a DSU in order to qualify to provide this service.			<b>Tenderer must respond YES or NO.</b> <b>If Tenderer responds YES, Tenderer must answer question 1.2A</b> <b>If Tenderer responds NO, Tenderer does not need to answer question 1.2A but must complete remaining questions in this section.</b>	
10	1.2A	Is the Providing Unit registered in SEM or will it be registered by 1 September 2018? NOTE: If the Providing Unit is a Demand Side Unit, it must be registered in SEM by 1 September 2018 in order to qualify to provide this service.			<b>Tenderer must respond YES.</b>	
11	1.3	Can the Providing Unit provide a Dynamic Response or a Static Response? Please detail in the Parameter cell if Dynamic Response or Static Response or both. Note: The criteria defining the capability of a Providing Unit to provide either a Dynamic or Static Response for the FFR service are set out in the DS3 System Services Contracts for Regulated Arrangements Recommendations Paper ( <a href="http://www.eirgridgroup.com/site-files/library/EirGrid/DS3-System-Services-Contracts-Recommendations_final.pdf">http://www.eirgridgroup.com/site-files/library/EirGrid/DS3-System-Services-Contracts-Recommendations_final.pdf</a> ).			<b>Tenderer must respond YES and provide parameter, either 'Static', 'Dynamic' or 'Both' for the Providing Unit.</b>	
12	1.4	Is the Reserve Trigger Capability greater than or equal to 49.3Hz?			<b>Tenderer must respond YES</b>	
13	1.5	Can the Providing Unit provide a minimum of 1MW of FFR?			<b>Tenderer must respond YES.</b>	
14	1.6	Is the Providing Unit connected to the Ireland/ Northern Ireland Transmission System or Distribution System or will the Providing Unit be connected by 1 September 2018?			<b>Tenderer must respond YES.</b> <b>If the Providing Unit is not an Aggregator, please confirm the Connection Point. If the Providing Unit is an Aggregator please provide all associated MPRN meter numbers, and Individual Demand Sites or Generator Sites details, as outlined in the Grid Codes (SONI section PC.A3.4.2 for AGU, SONI section PC.A3.4.3 for DSU, EirGrid section PC.A4.13 for AGU, EirGrid section PC.A6 for DSU) by filling out the System Services Site Info tab.</b> <b>If not currently connected to the Power System but planning to be connected by 1 September 2018 please provide a detailed project programme (MS Project Format or similar) and proof of connection agreement or letter from relevant system operator (EirGrid, SONI, ESB Networks, NIE Networks) confirming connection by 1 September 2018. If the Providing Unit is an Aggregator please provide all associated MPRN meter numbers, and Individual Demand Sites or Generator Sites details, as</b>	
15	1.7	Can the Providing Unit provide FFR by 1 September 2018 as per the technical description in the DS3 System Services Agreement and the DS3 System Services Protocol - Regulated Arrangements?			<b>Tenderer must respond YES.</b>	

Section A is a single section as this is the first time that FFR is being procured



# Technical Questionnaire- (Section A cont'd and Section B)

A25 FAST FREQUENCY RESPONSE (FFR) SECTION B - PASS/FAIL TECHNICAL QUESTIONNAIRE FOR DISTRIBUTION CONNECTED PROVIDING UNITS ONLY					
A	B	C	D	E	F
16	1.8A Has the Providing Unit a TSO-approved DS3 System Services Test Report (and Wiring Cert where applicable) demonstrating the Providing Unit's capability to provide the FFR service? (This question is only pass/fail in combination with 1.8B & 1.8C).  <b>Note:</b> DS3 System Services Test Report templates are available here: <a href="http://www.eirgridgroup.com/customer-and-industry/general-customer-information/grid-code-compliance-test/compliance-testing/index.xml">http://www.eirgridgroup.com/customer-and-industry/general-customer-information/grid-code-compliance-test/compliance-testing/index.xml</a>			If Tenderer responds YES, Tenderer must provide the TSO-approved Testing Report (and Wiring Cert where applicable) demonstrating the Providing Unit's capability. If Tenderer responds NO, Tenderer must respond YES to questions 1.8B - 1.8C and provide the associated evidence.	
17	1.8B If the answer to question 1.8A above is NO, please provide evidence that a Testing Request has been submitted to the TSO and that the TSO has agreed to a date, which must not be after July 20th 2018, for testing to take place.			Tenderer must respond YES. Tenderer must provide written confirmation from the relevant TSO confirming that the TSO has agreed a date, which must not be after July 20th 2018, for testing to take place. Please specify agreed test date.	
18	1.8C If the answer to question 1.8A above is NO, do you understand that a DS3 System Services Test Report (and Wiring Cert where applicable) for provision of the FFR service must be approved by the TSO by August 17th 2018?			Tenderer must respond YES.	
19	1.9 Does the Providing Unit have monitoring equipment installed on site that meets the standards set out by the TSOs in the DS3 Performance Measurement Device Standards for Fast Acting Services ( <a href="http://www.eirgridgroup.com/site-files/library/EirGrid/DS3-Performance-Measurement-Device-Standards-for-Fast-Acting-Services.pdf">http://www.eirgridgroup.com/site-files/library/EirGrid/DS3-Performance-Measurement-Device-Standards-for-Fast-Acting-Services.pdf</a> )?			Tenderer must respond YES or NO. If Tenderer responds YES, Tenderer must specify whether monitoring equipment is TSO-owned or otherwise. If equipment is not TSO-owned Tenderer must provide evidence of type and installation of monitoring equipment.	
	1.9A Will such equipment be installed on the Providing Unit site by August 17th 2018?			Tenderer must respond YES. Tenderer must provide evidence of type and installation of monitoring equipment.	
	Has the Providing Unit tendered for any of POR, SOR or TOR1 in Phase 1 of the Volume Uncapped Procurement Process for the Regulated Arrangements?			Tenderer must respond YES or NO. If Tenderer responds YES, Tenderer must complete Question 1.10A.	
	Is the Providing Unit capable of continuing along the trajectory of the applicable FFR frequency response curve, reflecting the unit's capability set out in Section C, for the extended timeframes of POR, SOR and TOR1, as required of the TSOs in response to a Reserve Trigger? <b>Note:</b> Section 4.15.2.2 of the DS3 System Services Contracts for Regulated Arrangements Recommendations Paper ( <a href="http://www.eirgridgroup.com/site-files/library/EirGrid/DS3-System-Services-Contracts-Recommendations_final.pdf">http://www.eirgridgroup.com/site-files/library/EirGrid/DS3-System-Services-Contracts-Recommendations_final.pdf</a> ) states that the Providing Unit's provision of POR, SOR and TOR1, if contracted for any of these services, must mirror its FFR response characteristics. Have the relevant questions in Section C been answered?			Tenderer must respond YES.  Tenderer must respond YES and fully complete all relevant questions in Section C.	
FAST FREQUENCY RESPONSE (FFR) SECTION B - PASS/FAIL TECHNICAL QUESTIONNAIRE FOR DISTRIBUTION CONNECTED PROVIDING UNITS ONLY					
Description	Response	Minimum Evidence Required to demonstrate compliance		Please provide document name, location and cross reference number in submission for	
1.12 If the Providing Unit is connected to the Ireland/ Northern Ireland Distribution System or will be before 1 September 2018, do you understand that formal notification must be provided from the relevant DSO/DNO confirming consent for the service to be provided by July 11th 2018?		Tenderer must respond YES. Formal notification from the relevant DSO/DNO confirming consent for the Providing Unit to provide the service must be			

Testing Reports required for all services as evidence of aspiring units' ability to provide a service



# Technical Questionnaire- Section C

FAST FREQUENCY RESPONSE (FFR) SECTION C - TECHNICAL (FOR INFORMATION PURPOSES ONLY) QUESTIONNAIRE					
Q No	Description	Response	Parameter (All orange fields must be completed, if not applicable)	Notes	Please provide document name, location and cross reference number in submission for explanation where required (e.g. pg.4 FFR)
<b>Operating Reserve Questions Relating to FFR (DYNAMIC RESPONSE)</b>					
2	If the Providing Unit can provide a Dynamic Response please confirm and complete questions 2.1 - 2.8.				
2.1	Is the Providing Unit automatically able to track changes in frequency dynamically and respond in a continuously controlled manner proportional to the system frequency?				
2.2a	Does the Providing Unit provide a response in discrete steps?			<b>Tenderer must respond YES or NO</b>	
2.2b	In how many discrete steps can the Providing Unit provide a response? Note: For dynamic capability when providing FFR, a Providing Unit must be able to respond with a minimum of 10 discrete steps.			<b>If Tenderer responds YES, Tenderer must complete Questions</b>	
2.2c	What is the maximum individual discrete step size with which the Providing Unit provides an FFR response? Note: The maximum individual discrete step size cannot exceed 5 MW for a dynamic response.				
2.2d	Does the Providing Unit provide an FFR response in a monotonically increasing manner? (Definition of 'monotonically increasing manner' given below.)				
2.2e	Can the Providing Unit provide each discrete step of response within the maximum allowable tolerance? Note: All discrete steps should be of equal magnitude, but a maximum allowable tolerance of 1MW of the average step size will apply, where the average step size is the FFR available volume divided by the number of discrete steps in the response. For example, for a Providing Unit that can provide 20 MW of FFR with 10 discrete steps, the average step size will be 2 MW; therefore, the smallest discrete step that the Providing Unit may provide is 1MW, and the largest discrete step that the unit may provide is 3 MW.				
2.3	What is the Reserve Trigger Capability of the Providing Unit? (Definition of Reserve Trigger Capability given below.)				
2.4	Is the Reserve Trigger adjustable? (Definition of Reserve Trigger given below.)				
2.5	If the Reserve Trigger is adjustable what is the adjustable range? Note: The lower limit of the range cannot be lower than 49.8 Hz and the upper limit of the range cannot be above				
2.6	What is the FFR Trajectory Capability of the Providing Unit, measured in Hz? (Definition of FFR Trajectory Capability given below). Note: For a Providing Unit to be eligible to be contracted as a dynamic provider of FFR, the unit must be able to operate with a minimum trajectory capability of 2 Hz in response to a Reserve Trigger. For Providing Units that provide a response in discrete steps, the unit's final discrete step must occur at or above 49.3 Hz.				
2.7	What is the adjustable range of the FFR Trajectory Capability of the Providing Unit, measured in Hz?				
2.8	Is the Providing Unit capable of operating without recovering its resource following an event until the system frequency has been sustained at 49.8 Hz or above for a period of time to be instructed by the TSO? This time period may be a maximum of 20 mins. For example, a battery that wishes to re-charge following an event may be instructed to wait up to a maximum of 20 mins before doing so.				

Dynamic Capability

Section C is for information but must be completed as specified



# Technical Questionnaire- Section C

	A	B	C	D	E	F	G
45	<b>Operating Reserve Questions Relating to FFR (STATIC RESPONSE)</b>						
46	3	If the Providing Unit can provide a Static Response please confirm and complete questions 3.1-3.9.					
47	3.1	What is the Reserve Trigger Capability of the Providing Unit? (Definition of Reserve Trigger Capability given below.)					
48	3.2	Is the Reserve Trigger adjustable? (Definition of Reserve Trigger given below.)					
49	3.3	If the Reserve Trigger is adjustable what is the adjustable range? Please note that the lower limit of the range cannot be lower than 49.3 Hz and the upper limit of the range is 49.8 Hz.					
50	3.4	What is maximum number of Reserve Step Triggers? (Definition of Reserve Step Triggers given below.)					
51	3.5	Is each Reserve Step Size adjustable? (Definition of Reserve Step Size given below). Note: The TSOs reserve the right to require that a unit provide its entire FFR available volume at a single Reserve Step Trigger, including at its contracted Reserve Trigger, or in any number of discrete steps between 1 and the unit's maximum number of Reserve Step Triggers.					
52	3.6	If the answer to question 3.5 is YES, please specify the Reserve Step Sizes which are adjustable and provide the associated adjustable range in MW.					
53	3.7	What is the maximum individual Reserve Step Trigger MW value with which the Providing Unit is capable of responding? Note: 75 MW is the maximum allowable MW response for a single Reserve Step Trigger. The TSOs reserve the right to require that a unit provide its FFR available volume in any number of discrete steps between 1 and the unit's					
54	3.8	What is the minimum individual Reserve Step Trigger MW value with which the Providing Unit is capable of responding? Note: The minimum allowable MW response for a single Reserve Step Trigger is 20% of the MW value of the Providing Unit's largest Reserve Step Trigger in response to a Reserve Trigger. For example, in the case of a Providing Unit whose largest Reserve Step Trigger in response to a Reserve Trigger is 50 MW, the MW provision of the smallest Reserve Step Trigger can be no less than 10MW.					
55	3.9	Is the Providing Unit capable of Hysteresis Control across all of its Reserve Step Triggers in the provision of FFR? (Definition of FFR Hysteresis Control given below). Note: The TSOs will instruct the unit as to the recovery frequency set point for each Reserve Step Trigger.					
56	<b>General FAST FREQUENCY RESPONSE (FFR) Technical Questions</b>						
57	4.1	What is the maximum volume of FFR that the Service Provider is seeking to contract for the Providing Unit under the Regulated Arrangements?					
58	4.2	Please provide FFR Reserve Characteristics.			Please complete "Reserve Characteristic" sheet		
59							

Static Capability

Section C is for information but must be completed as specified



# Volume Uncapped Procurement Timelines

- Deadline for clarification requests :
  - **April 27 2018**
- Tender submission deadline :
  - **12 noon May 29 2018**
- Notification letters to tenderers :
  - **July 26 2018**