

# Electricity System Restoration (ESR) Competitive Procurement Event

## FAQs

### Executive summary

To ensure equal access to information and to support Tender participants we have included all questions and answers below that were asked during the Market Engagement Webinar held on the 28<sup>th</sup> of June. During the request for feedback period on previous tenders ran by the ESO we answered several questions from potential participants, we have included the ones still relevant below. Once the tender is launched this will be replaced by a formal clarification submission process.

### Questions and Answers

\*Questions marked with 'W' were asked during the Market Engagement Webinar and relevant to the Wind Tender.

\*Questions marked with 'G' are generic to this tender.

\*Questions marked with 'P' were asked during tenders that we have ran previously and are still relevant.

\*Questions marked with 'E' were asked during the Expression of Interest stage of the tender process.

Ref	No	Question	Response
W	1	How does the wind tender interact with the region-specific tenders? e.g., can parties submit for both and what's the implication?	Yes, parties can submit for both if they can meet the minimum technical requirements.
W	2	Will you track MW output over the year (outside declared outage periods) to verify 80% 'availability' of the declared MW?	ESR availability is carried out on a trust basis and ESR providers should only declare themselves available if they can meet the technical parameters as per their Commercial Services Agreement.
W	3	What involvement do you expect OFTOs to have in this tender process?	The purpose of this tender is to procure restoration services from windfarms. OFTOs will be able to participate in the tender if they don't have the obligation under the SO-TO Code combining with an offshore windfarm. Therefore, if there is no obligation, they

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			could offer a restoration service combining with an offshore windfarm to provide either a full service or a top-up service. We would expect the offshore windfarm providers to have this early engagement with the OFTOs.
W	4	Could you elaborate how stack ability with balancing services work? Does it mean the ESR volume needs to be taken out when parties bid into the balancing market?	No ESR volume is ringfenced and therefore parties can still provide other balancing services whilst being contracted for ESR
W	5	Can you please clarify launch and submission dates for consultation and EOI?	The EOI will be launched on the 8th August and the submission date will be the 5th September
W	6	Do you have a minimum MW capacity in mind for the 'regional' tenders? Presumably the 80% availability and 10MW block load criteria both would still apply	The criteria for the region-specific tender will be shared as part of the ITT Tender Part 1, correct for wind providers the 80% availability and 10MW block load will apply.
W	7	Are providers paid as bid? per MW?	Yes, pay as bid, but we ask for an availability payment that we will be paid monthly. The only consideration on MWs is during the technical criteria assessment, i.e., the more MW you can offer the greater score you will get in this assessment. More details on technical criteria and weighting will be provided in the tender documents.
W	8	Would all locations carry the same weighting / score equally e.g., onshore, offshore, England, Scotland?	Yes, in short, all locations will carry the same weighting.
G	1	How do I get paid in the event of a National Power Outage?	Like as it happens currently. There is a process for generators to get cost recovery of any fuel utilised by their asset to provide restoration. This process is covered in the Balancing and Settlements code.
P	1	Will submissions that deviate from the technical requirements be allowed?	We want to remove or minimise barriers to entry and

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			<p>are proposing to consider EOI submissions where the provider can meet almost all of the technical requirements. Where this is the case, EOI submissions are not guaranteed to be accepted, and it will be at the discretion of ESO assess whether the provider would be able to contribute to a restoration.</p> <p>Where applicable, reduced capability will be scored appropriately in the technical assessment (and may be given a zero score for that section).</p>
P	2	We note that the block loading requirements have been revised, can you provide the context for this?	<p>The block loading requirements have been revised to:</p> <ul style="list-style-type: none"> <li>- Reflect the current capability of DNOs to switch in smaller sections of network.</li> <li>- Reduce risk to plant</li> </ul> <p>Reduce/remove barriers to entry</p>
P	3	How is shutdown defined with respect to the 2-hour restart time? Is the time from a blackout or from the point a station can safely shutdown systems?	<p>As per the Grid Code Definition, this is "... the ability to Start-Up from Shutdown and to energise a part of the System and be Synchronised to the System upon instruction from The Company, within two hours, without an external electrical power supply".</p>
P	4	Is the funding cap across both F1 and F2 studies?	<p>As per the current process, the provider is expected to fund the F1 study themselves.</p>
P	5	What happens to the tender process if there are less bids than demand?	<p>We will know at EOI stage how many tenderers to expect and will be able to assess then, however, we don't expect this to be the outcome</p>

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P	6	What information on tender responses will be published during the process?	We won't disclose any information that could identify a ESR provider, but will aim to publish information about awarded contracts, for example, technology types, total MWs, total cost etc.
P	7	How will the feedback on the commercial submissions work in practice? Will there be a chance for resubmission of a Best and Final Offer?	We will aim to share feedback on total costs and may employ a third party to scrutinise designs and capital costs. We are currently proposing that there will be the opportunity to resubmit the commercial element after clarifications - all providers will be given the same opportunities.
P	8	Is it expected that all capital costs will be recovered through the commercial offer, or can this be defined by the bidder?	<p>We expect the capital costs to be open book, and to be recovered based on invoice evidence. Capital costs should not be recovered through the availability fee.</p> <p>If the provider does not wish to recover all of the capital costs (for example, will partially recover via another revenue stream), they should still state the full costs of all associated works in the commercial submission for review.</p>
P	9	We have previously done a F1/F2 Scope/F2 study that you approved earlier in the year; can you confirm it is still valid?	<p>If you wish to participate in the tender and have already completed one or more steps of the process, please notify us with your EOI, ESO will formally respond to confirm the validity of your study.</p> <p>We will minimise rework as far as possible.</p>
P	10	Will I be able to ask technical queries confidentially?	Yes, you will be able to use the query form and mark your query as confidential. ESO will provide comment where we can but will not input into or steer decisions.

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			Queries submitted marked as confidential will be reviewed, if ESO does not agree that it is appropriate to respond bilaterally, we will notify the tenderer that we will anonymise the answer and publish it and will give the tenderer the option to retract their question.
P	11	I've already completed an F2 which I think will be valid. I think I could offer a better value solution in line with the revised technical requirements, but this would need design rework. Can I request funding for further design rework?	<p>Please notify us within your EOI. ESO will assess whether further funding for rework is justified, and if so, you will be asked to submit a scope for the additional work by the F1/F2 scope deadline.</p> <p>ESO will have no obligation to accept requests for further funding and will reject proposals for work that could create a competitive advantage.</p>
P	12	Will the tender programme be impacted if another tenderer falls behind?	The timeline will be fixed, and ESO will ask all interested parties to commit at EOI stage to meeting it. The overall timeline will not be impacted if one tenderer does not meet it.
P	13	Is there a standard contract duration or is it up to the bidder to propose? If so, what are the parameters?	<p>The contract duration will be standard, though if a provider can commence the service earlier, we invite them to notify us during the tender, and if efficient to do so, they may be able to extend their contract forwards.</p> <p>We are currently considering 5 years for the contract durations.</p>
P	14	What exactly is the definition of Sequential Start-ups?	Following a ESR event and during the re-instatement period the Power Island created by a ESR Service Provider may collapse. The expectation is that a ESR Service Provider will be capable of, consecutively, re-

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			starting and re-establishing the collapsed Power Island a minimum number of times (3).
P	15	Who will pay for conducting the F1 & F2 studies?	The F1 is a short study that we aim to streamline with our submission template, and is a summation of current knowledge, we expect the tenderers to cover the costs. Subject to an approved F1 and F2 scope, and once contractually in a formal agreement, ESO will fund the F2 report up to a cap of £150,000 for a primary service, which will be reimbursable following completion of the study (including responses to clarifications) and following submission of invoices and evidence of costs incurred.
P	16	Are we able to meet the requirements by aggregating services? If this is a yes, then would they need to be in the same location?	Aggregated submissions will also be considered, providing the contracted Service is delivered and can meet the technical requirements at one point of delivery.
P	17	What information on tender responses will be published during the process?	We will not publish any tender responses or submissions. We will, where possible, publish anonymised metrics that may include total cost, number of contracts agreed, number of participants, technology types, MWs etc.
P	18	How would ESO interact with group-parties during this process, when dealing with joint proposals?	We advise that any combined proposal follows a 'lead party' structure, where the lead party is the point of contact, and organises any supporting contracts necessary with other parties.
P	19	How will the status of acquiring required planning permission for potential providers be assessed?	We ask that during the F1 submission, providers are to provide proof of engagement with relevant authorities regarding consents (to be included as part of the submission template).

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			In addition to the evidence provided in the F1, we also ask for evidence of application(s) being made as part of the F2 submission (will also be included as part of the F2 submission template).
P	20	What do you mean by 'network assessments' at the EOI stage?	This will be performed by NG ESO in the event that your EOI submission highlights areas of limitation in the technical requirements. ESO will assess whether the specific proposal will still be able to contribute to a restoration when considering the limitation. No action will be required from the provider.
P	21	Should a potential Service Provider disclose its admissible rate of block loading (example: 20MW every 2 minutes)?	The actual rate will be driven by the providers needs along with the local DNO's switching ability. This will however be detailed/confirmed throughout the F1 & F2 stages (sizes of blocks, time between blocks, any hold points, etc.)
P	22	Will there be provision to recover costs for testing?	It would not be economical to carry out testing for each proposal at F2 stage. We ask that a Statement of Capability from the OEM is provided as part of the F2, in lieu of pre-contract testing.
P	23	Is there the ability to drop out of the process following making an EOI?	You can withdraw from the tender process at any point (prior to a contract being signed). We do however ask that you give us notice of this withdrawal. If you would like to withdraw from the process during the F2 study, we advise that you ensure you complete and deliver the study to remain eligible for reimbursement.
P	24	Is mutual agreement required by both National Grid ESO and the party who is proposing the service in selecting the Study provider?	NG ESO will not approve study providers, but do, as part of the process, agree on a scope of works. We do expect the study provider to have the relevant knowledge and expertise to undertake the study, which is covered in the

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			F2 side letter and terms. The obligation is on the potential provider to ensure the study provider is appropriate.
P	25	How is extra redundancy valued – multiple units providing the Service compared to a site with only 1 unit?	We require a high service availability (≥90%) to cover for planned/unplanned outages. We also ensure that we have sufficient Service Providers contracted within each zone to cover for random faults.
E	1	With respect to offshore wind providers, please confirm the point at which the ESO shall measure and validate any reactive lead contributions, in terms of the NETS/OFTO?	Windfarms will have to meet the requirements at the Grid Entry Point, as specified in the BCA. OFTO's must meet the requirements at the Transmission interface point as stated in the grid code.
E	2	For the avoidance of doubt, is this aimed at existing generation plant that can have equipment added to it, or new plant with that capability?	Either options (existing or planned assets) are eligible for the tender, provided they can meet or be designed to meet, the technical requirements and can provide service by December 2026 at the very latest.
E	3	Why are anchor generator and top up service provider requirements not included in wind EOI tender?	Through the wind tender, the ESO is seeking to provide additional resilience requirements for restoration services, to bridge any potential technology gaps and by working with the industry, demonstrate that the provision of a 'full service' from Wind is feasible." The capability of providing anchor generator or top up services is open through the regular region-specific restoration tenders for any technology types, so long as they can provide the service by the stipulated deadlines. Another primary driver for full-service provision from wind is to tap into the 50 GW of offshore wind generation forecast for 2030. We are interested to hear back from potential wind providers around what they can provide so far as the full-service technical requirements

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E	4	Inertia Definition for Converter-Based Technology	<p data-bbox="1126 271 1490 450">go, and what investments they may need to add, in order to be able to meet those requirements and start the contract by December 2026 at the very latest.</p> <p data-bbox="1126 479 1490 568">The Active Inertia Power is now defined by in the updated <a href="#">Grid Code</a>.</p> <p data-bbox="1126 577 1490 757">The inertial response must be provided from a Grid Forming Plant for frequency changes in both directions. Inertia shall be defined as in the following equation:</p> $\text{Inertia (MWs)} = \frac{\Delta P \times f_0}{2 \times \text{RoCoF}}$ <p data-bbox="1126 824 1214 846">Where:</p> <p data-bbox="1126 860 1490 981"><math>\Delta P</math> is the Active Inertia Power of the Grid Forming Plant for a frequency event of 1Hz/s (MW).</p> <p data-bbox="1126 990 1490 1079">For frequency ramps events, <math>\Delta P</math> must be calculated using the following formula:</p> <p data-bbox="1126 1088 1490 1267"><math>\Delta P = [\text{Average MW provided by the plant at Grid Entry Point across all recorded samples over the frequency ramp period}] - [\text{Initial MW provided by the plant prior to the event}]</math>.</p> <p data-bbox="1126 1276 1490 1339">RoCoF is the Rate of Change of Frequency (RoCoF) in Hz/s.</p> <p data-bbox="1126 1348 1490 1411"><math>f_0</math> is the pre-fault System Frequency (Hz).</p> <p data-bbox="1126 1420 1490 1599">The above equation gives acceptable inertia calculation accuracy for both synchronous machines and Grid Forming Converters for a 1Hz/s RoCoF events lasting for 1 sec.</p>
E	5	Determination of Minimum Inertia for a Grid Forming Converter	<p data-bbox="1126 1704 1490 2040">In order to determine the minimum inertia for a GFC it is required to apply in time domain simulation 8 events and calculate the inertia for each of the events. The simulation time step should not exceed 1ms. The frequency events must be modelled as a change in the grid source frequency. The</p>

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			minimum inertia from these 8 events is “minimum guaranteed inertia”. More details can be found in the updated Appendix 1
E	6	How to decide the service availability calculation with a forward window > 10hrs	Full details are yet being finalised. Further details will be shared as soon as possible.
E	7	Clarify how coordinated sequencing requirements across different technologies/service providers would be considered in the wind tender with respect to the time to connect requirement	We will take this into consideration, and this will be addressed further into the process.
E	8	Is the wind restoration service to be provided at the offshore point of connection or at the onshore point of connection?	The contracted service is measured at the Grid Entry Point.
E	9	How is the role of the OFTO foreseen in the provision and contracting of the restoration service?	OFTOs will be relevant. The framework is being reviewed for further clarity and further details will be shared as quickly as possible.