ESO

Electricity System Restoration (ESR) Competitive Procurement Events/Tenders

FAQs

Executive summary

To ensure equal access to information and to support tender participants, we have consolidated questions raised to the ESO from across all restoration tenders past and present, including any engagements with participants and during the course of the Distributed ReStart Project. We have aimed to provide the most generic response across any of the submission categories, however in some cases, the questions are specific to certain generation types or around the Distributed ReStart categories.

This will be a live document and updated regularly as we move through the stages of the ongoing and future tenders to ensure all responses are relevant and resourceful for all tender participants.

The questions are split over categories: technical requirements, commercial, contractual, the tender process and assessment. Please review these questions before you raise a formal query using the appropriate Tender Query Form to the email address: Commercial.operation@nationalgrideso.com. The cut-off for all queries raised is 10 working days before any submission deadline.

Version control table

Date	Version	Updates
3 August 2023	V2.0	Combined FAQs from the 2022 South East, Northern and Wind Tenders

Questions and Answers

Category	No	Question	Response
Technical Requirements	1	Where can I find details of the commissioning assessment and testing regime?	We have published guidance around the commissioning assessment and testing regime which can be found under the 'ESR Tender Information' tab on our web page Here - https://www.nationalgrideso.com/industry-information/balancing-services/system-security-services/restoration-services#Document-library
Technical Requirements	2	What are our Operational Metering requirements?	Frequency (Hz); Voltage (kV); Availability (Available/Unavailable); Active Power Output (MW); Reactive Power Output (MVAr); For Contracted Top Up Plant comprising wind turbines, wind speed forecasts and observations (ms-1) and wind direction forecasts and observations (degrees); and

Category	No	Question	Response
			For Contracted Top Up Plant comprising hydro-electric plant, the upper reservoir limits.
Technical Requirements	3	Will you track MW output over the year (outside declared outage periods) to verify 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. We are requesting as part of the Operational Metering requirement, visibility of some of this data as part of the contract.
Technical Requirements	4	We need two units for inertia nominally we expect to run one in gen/one in spin gen or both in gen. The report won't cover the exact running pattern as would typically be covered in the LJRP. We presume this is correct.	Yes, it is acceptable to have two units operate for inertia.
Technical Requirements	5	Our team is not aware of any data provided to a PMU Data Concentrator from our wind farms. Could you please explain the use of transferring the PMU data? Our wind farms are already connected to Grid and providing the averaged observation, is anything further than this required?	As part of wind tender, ESO has published a draft availability monitoring mechanism, it also can be used in the SE/Northern tenders. For a wind farm, it is ideal to have the visibility of the wind speed, wind direction, power curve of the turbine, etc..
Technical Requirements	6	How would ESO envisage Top-up ESR to be used in conjunction with Primary ESR in the restoration process?	In theory, top-up ESR provider will provide the contracted service once the site is restored by Primary service providers and the main unit is able to join the power island created by the primary service providers
Technical Requirements	7	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 provided when there is a power outage event, the asset can provide the contracted requirements, otherwise there are penalties.
Technical Requirements	8	We note that the block loading requirements have been revised, can you provide the context for this?	The block loading requirements have been revised to: - Reflect the current capability of DNOs to switch in smaller sections of network - Reduce risk to plant - Reduce/remove barriers to entry.
Technical Requirements	9	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?	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”.

Category	No	Question	Response
Technical Requirements	10	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-starting and re-establishing the collapsed Power Island a minimum number of times (3).
Technical Requirements	11	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.
Technical Requirements	12	What do you mean by 'network assessments' at the EOI stage?	This will be performed by ESO and the relevant DNO if 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.
Technical Requirements	13	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.).
Technical Requirements	14	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.
Technical Requirements	15	Inertia Definition for Converter-Based Technology	The Active Inertia Power is now defined by in the updated Grid Code. 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: Inertia (MWs)= (ΔP ×f_0)/(2 ×RoCoF) Where: ΔP is the Active Inertia Power of the Grid Forming Plant for a frequency event of 1Hz/s (MW). For frequency ramps events, ΔP must be calculated using the following formula: ΔP = [Average MW provided by the plant at Grid Entry Point across all recorded samples over the frequency ramp period] – [Initial MW provided by the plant prior to the event]. RoCoF is the Rate of Change of Frequency (RoCoF) in Hz/s. f0 is the pre-fault System Frequency (Hz). The above equation gives acceptable inertia calculation accuracy for both synchronous machines and Grid

Category	No	Question	Response
			Forming Converters for a 1Hz/s RoCoF events lasting for 1 sec.
Technical Requirements	16	Determination of Minimum Inertia for a Grid Forming Converter	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 minimum inertia from these 8 events is “minimum guaranteed inertia”. More details can be found in the relevant Appendix 1.
Technical Requirements	17	Time to connect - how will the following be treated: time for fault clearance; TO/DNO switching	ESO/TO/DNO is responsible to make sure the transmission/ distribution lines connecting wind farms to grid is available to use in a restoration scenario. After confirming the network is ready to use, wind generators will need to be available in 2hrs once instructed to meet the contract agreement.
Technical Requirements	18	Reactive power: what active power set point does the reactive capability definition correspond to?	It will be the reactive power at no load or minimum load.
Technical Requirements	19	Inertia: clarifications on latest definition in Appendix 1 and the Grid Code. - The “minimum guaranteed inertia” needs to be at least 400MWs (i.e., MJ), and is the minimum value obtained from Steps 1,2,5,6,7 & 8. According to the equation, 400MWs requires an average increase in active power of 16MW over the 1s frequency event (-1Hz/s from 50Hz to 49Hz in Step 1). If the grid forming converter (battery or wind turbines or combination) is already at maximum P and maximum Q then there can’t be any increase, otherwise the converter’s 1pu current limit would be exceeded. In this case the increase in active power would be zero, so the minimum would be zero, which is non-compliant. - Is it acceptable to only simulate Steps 5 and 6, i.e., those with 0MW and max leading/lagging reactive power?	The minimum inertia criteria are to see if the wind generator can provide inertia to grid during a restoration event when instructed. It is the decision from developers whether to make investment to always maintain the headroom ready for inertia provision. No, we need the assurance that the wind generator can provide enough inertia at any running scenario, but those steps for importing MW can be missed.

Category	No	Question	Response
		- If it is a requirement to simulate Step 1 and count it towards the 400MWs minimum, then that would suggest the addition of a grid forming battery to a wind site would be a requirement if it was to comply, and the converter's MVA rating would need to be higher than the battery's, so that it can accommodate the increased current during the event. Can NGESO confirm that's correct?	Whether to add the battery and how make it work for restoration services must be decided by the developer yourself. It might be useful if you could also let us know what the inertia value is that you can get without adding a battery.
		- Can NGESO confirm what maximum leading and lagging reactive power refers to. Is it the converter's full MVA rating, but as MVAr, or is it the value which corresponds to the maximum Q whilst at rated MW output (which I assume is what is meant in Step 1)? Also, does it include: 1) The sum of the reactive capability provided by grid forming converters only (wind turbines and battery), or 2) The sum of the reactive capability provided by all converters, grid forming and grid following.	Yes, we will need MVAr value for 0MW output, and for maximum contracted MW output. The MVAr value quoted in the contract will be achieved at Grid Entry Point or User System Entry Point or Transmission Interface point as applicable. The Wind developer will decide what combination is the best solution to meet the minimum MVAr capability requirement. If there is a need from grid following machines to contribute the reactive power, that is fine, but the service availability can be claimed only when all the required machines are in service.
Technical Requirements	20	General Description of the (wind) Service in the start-up sequence - is it required to get to the Minimum Stable operating Level? We believe that reaching the Minimum Regulation Level and providing contractual output is a more desirable approach	Minimum stable operating level may not be applicable to wind generators, but it can be changed to minimum contractual output
Technical Requirements	21	Short circuit level - our connection voltage to the relevant DNO network is 33kV, is this acceptable? There is a step-up transformer owned by the relevant DNO network with the HV voltage being 132kV.	We can consider the submission, and the final decision will be made by both the relevant DNO and the ESO.
Technical Requirements	22	Is the 10MW block loading appropriate for a wind farm?	Yes, please indicate the maximum block loading capability can be achieved.
Technical Requirements	23	Stage 1 Feasibility Document: Short circuit level	Fault ride through study can be used to demonstrate the generator capability. The fault current for T<80ms is to get

Category	No	Question	Response
		This is normal fault ride through for the Onshore AC network and will be demonstrated by the simulations. Our Understanding: T<80ms: provide 1pu current T>80ms: allowed to reduce to ~0.4pu current	the fault current value at transient state, and fault current when T>80ms is to get the steady state fault current value.
Technical Requirements	24	What are the telecoms availability resilience requirements to order for a generator to offer these restoration services?	The availability of communications should, as a minimum, follow suit with the availability of the service. We are expecting you to demonstrate to us that you will be able to communicate internally, for a minimum of 72 hours. We accept that outside your control, and by outside your control, we mean a comms path between yourself and the ESO control room or the DNO control room or the TO's control room is completely outside your scope, and it will be for us to manage that comms path. We are expecting providers to demonstrate to us that if we are under a national power outage event, that you will have the resilient comms in place that will align with your declared availability of the service.
Technical Requirements	25	Are there any specific connection points system voltage that you prefer for this service?	No. All ESR tenders are driven by a technical requirement within the set boundaries. We are accepting that if you meet the minimum requirements, you will be considered.
Technical Requirements	26	Can BESS still operate in power exchanges markets if they are awarded a black start tender?	BESS are already operating in the restoration market. We expect battery power providers to guarantee that if they are asked to contribute to restoration during a national power outage event, that they can deliver against the contracted figures.
Technical Requirements	27	What is meant by block loading size?	Block loading size stands for the generator's ability to connect to demand is known as its block load capability. In the Grid Code this is defined as 'active power step (MW) a generator can instantaneously supply without causing it to trip or go outside 47.5Hz-52Hz (or otherwise agreed)'. It reflects the current capability of DNOs to switch in smaller sections of network.
Technical Requirements	28	If a battery-only solution was considered for a Distribution anchor generator then at the end of the 'Time to Connect' notice period, what state of charge 'head room' would a battery need to have to be able to meet the expected frequency regulation duty? (i.e., it would need to have some charge capacity remaining to be capable of absorbing power if the frequency	The head room will be managed by service supplier to fulfil the technical requirement as agreed in the contract.

Category	No	Question	Response
		went above 50 Hz as soon as it connected?)	
Technical Requirements	29	There is a requirement for short circuit infeed in Section 1.2.2 but in the EoI it does not say there is an expectation that there is a need for a 'self-starting' capability. Can you confirm if a top-up service (distributed restart) for an inverter-based solution requires grid-forming capability? If grid-forming is not required, can you confirm how the reactive current injection during a disturbance will be demonstrated in modelling (i.e., would it be as per the FRT reactive injection for that class (B, C or D) of generator)?	Grid forming capability is not compulsory for top up service providers. FRT can be used to demonstrate the capability.
Technical Requirements	30	We are unsure how the Energy (MWh) requirement is relevant to our proposed Top Up assets	It is required to support anchor generator to deliver MW to the DRZ and energise more demand.
Technical Requirements	31	We are unsure how the Fast MW control requirement is relevant to our proposed Top Up assets	It is required to support anchor generator the frequency control if the Anchor Generator alone cannot restore frequency within limits.
Technical Requirements	32	MVA.s is not the correct unit. Can we set out in MWs?	MVA.s has been widely used in other ESO technical document and we are trying to standardise the criteria. Submission in MWs is also acceptable to us.
Technical Requirements	33	Can you please explain what Power factor of 0.95 lead/lag at Point of Connection means so we can calculate the MVAr Leading capability	PF leading 0.95 is to make sure the generator connected to the grid can remain stable when working on the MW output limit. Lagging 0.95 is to find out the MVAr absorption capability of the generator. It would be helpful if you could provide MVAr values for no load condition and full contracted load condition.
Technical Requirements	34	For one of our stations, we don't believe that we have an MPAN. Would an MSID be acceptable? If we do have MPANs, are import MPANs sufficient? Or do you want Export ones too?	An MSID would be acceptable in absence of the MPAN. We also accept import MPANs, but we would welcome the export MPAN.
Technical Requirements	35	If a battery-only solution was considered for a Distribution anchor generator, then is the provider expected to deliver a single block load for the minimum ‘Resilience of Supply’ time (72 hours) i.e. for a contracted 2 MW block load, is it	Correct, 72hrs is the resilience of supply requirement for Anchor Generator and yes, it's 72hr start from the moment the generator starts to provide service as contracted.

Category	No	Question	Response
		true that the site would need to be able of providing a constant 2 MW load without interruption (say to recharge) for at least 72 hours, with the clock starting from the end of the 8 hour 'Time to Connect Period'?	
Technical Requirements	36	Noting that the block loading requirements were reduced from previous guidance, is there any additional value in providing larger blocks.	20MW value is considered a better value and should allow a wider range of solutions. The assessment criteria provided demonstrates how technical capability is valued.
Technical Requirements	37	What is the plant availability profile to classify for restoration services (mostly applicable for wind technology)?	In terms of ≥80% service availability of a year, it will be assessed by developer based on the historical data and design documentation. Regards the minimum 10hr delivery time, it is based on the wind forecast and agreed algorithm from ESO and developer. Developer is to establish the estimated exporting curve and then decide a service level you can meet. More guidance can be found in the Wind Availability Guidelines in the Wind Tender ITT F2 section on our website.
Technical Requirements	38	Will there be visibility of the type of network or loads that are being energised?	Not at the tendering stage, the only accessible resource is via Electricity Ten Year Statement issued by ESO.
Technical Requirements	39	How will the energisation process happen?	If blackout happens, all service providers will be communicated to confirm your availability. After that, once the transmission / distribution network is checked healthy and workable, ESO will instruct each service provider to provide ESR service and expect the system can be energized within 2hrs. This will be covered and documented in the Local Joint Restoration Plan discussion, once a ESR service contract is awarded.
Technical Requirements	40	What is the duration between the blackout and when power is required (mostly applicable for wind technology)?	The requirement for wind farms is to get transmission network energised within 2hrs once receive black start instruction from ESO. The wind farms must maintain the service available for required duration before you are instructed.
Technical Requirements	41	Will there be a soft start?	No, NGET doesn't accept soft energisation to their transmission assets. But it is acceptable if the generators soft start and only reach to the substation it connects to directly.
Technical Requirements	42	How does syncing occur?	ENCC is to co-ordinate the synch process. It is essential for developer to inform ENCC the system requirement before you are ready to synchronisation.

Category	No	Question	Response
Commercial (CAPEX and OPEX)	43	Are providers paid as bid? per MW?	Yes, pay as bid - we ask for an availability payment rate per Settlement Period which we clear 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.
Commercial (CAPEX and OPEX)	44	How do I get paid in the event of a National Power Outage?	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.
Commercial (CAPEX and OPEX)	45	Is the funding cap across both F1 and F2 studies?	The provider is expected to fund the F1 study themselves, if shortlisted to ITT F2, the ESO provides a capped contribution towards the cost of the studies.
Commercial (CAPEX and OPEX)	46	When we sign the Feasibility Study Agreement, does this commit us to completing and submitting a Feasibility Study?	Yes, if you do not submit a feasibility study, you will not be paid.
Commercial (CAPEX and OPEX)	47	If a provider delivers the F2 study but then withdraws from the tender, will they still be paid?	If you have signed the ITT F2 Study letter but then withdraw from the tender process, contact the ESO immediately and if you still deliver a feasible F2 study, you will remain eligible for reimbursement.
Commercial (CAPEX and OPEX)	48	Please state whether you will only reimburse third party study costs or also company internal costs if any of the studies can be conducted by the in-house engineering teams.	The purpose of the F2 report is validation of the equipment's capability by a third party. Whilst we can accept an internal study, we will still need the OEM to agree and approve the findings of the internal study. Either way, this report will not be acceptable if it does not have the OEM's involvement either to carry out the full feasibility study or approve the in-house study. Payment from us will be issued on the receipt of an acceptable FS2 study and not just an in-house self-certification report.
Commercial (CAPEX and OPEX)	49	Please confirm whether you need any further details on expected costs under paragraph 4 of the ESR Feasibility Study Letter by the signature date of the FSA or whether you are happy with the indicative details provided in the F2 Scope document in Appendix 2.	No we don't need further details under paragraph 4 of the FS2 agreement
		Please confirm further that reimbursement will be based on copies of invoices provided and up to the cap for the service type (£100k for top-up and £150k for primary) and not on the indicative costs in Appendix 2.	Yes reimbursement will be based on invoices and not indicative costs

Category	No	Question	Response
Commercial (CAPEX and OPEX)	50	How will the feedback on the commercial submissions work in practice? Will there be a chance for resubmission of a Best and Final Offer?	After the ITT F2 submission, we are currently proposing that there will be the opportunity to resubmit the commercial element after clarifications following evaluation from a third party to scrutinise designs and capital costs. All providers will be given the same opportunities.
Commercial (CAPEX and OPEX)	51	Is it expected that all capital costs will be recovered through the commercial offer, or can this be defined by the bidder?	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. If the provider does not wish to recover all 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.
Commercial (CAPEX and OPEX)	52	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. As part of the commercial submission, providers need to incorporate the cost of the commissioning assessment test plus a routine ESR test after three years' service which is a Grid Code requirement for providers.
Commercial (CAPEX and OPEX)	53	Commissioning & capability tests: process for agreeing test dates; test scope; will the cost of the tests need to be factored into the commercial submission or will ESO compensate based on an agreed methodology?	The cost of both ESR tests needs to be factored in the commercial submission.
Commercial (CAPEX and OPEX)	54	For wind generators to meet the 80% availability requirement, a BESS will most probably be required. Will the CAPEX cost for the BESS and additional HW/SW updates required at the WF be covered as a lumpsum in the Wind Tender or will that need to be reflected in the £/SP cost of the tender?	Yes, the cost of all additional auxiliary units and equipment need to be included in the CAPEX.
Commercial (CAPEX and OPEX)	55	What is the ESO's budget for Restoration Tenders?	There is no pre-determined budget for ESR Tenders, costs will be highlighted to Ofgem once the final shortlist is concluded.
Commercial (CAPEX and OPEX)	56	How does the funding for capital contributions work? Will this be part of the providers commercial bid or is this separate?	Yes, the capital contributions will need to be included as part of your commercial bid. The ESO can settle Capex costs at the end of the build stage using a PO route. Your other Opex costs will be part of your availability payment price that is paid per settlement period, monthly.
Commercial (CAPEX and OPEX)	57	Is availability measured on a HH (Half Hourly) basis?	Availability is measured on a settlement period basis every 30 minutes.

Category	No	Question	Response
Commercial (CAPEX and OPEX)	58	How can we value the cost of this service if this is due to in-built technology? For example, we know that to provide this service using diesel generator would cost the plant around £30 mln.	We encourage providers to cost their whole solution to meet the technical requirements in the category they have bid for. Therefore, if there is a capital investment required, indicate that in the ITT F2 Commercial Submission along with the operational costs of the service.
Commercial (CAPEX and OPEX)	59	Is there a minimum maximum range of tariff that is expected?	There is no baseline set on Availability Payments or capital spend.
Commercial (CAPEX and OPEX)	60	Will the lowest tariffs win the tender?	Our final evaluation is based on 50:50 scoring of technical and commercial submission. It is not necessarily the case that the cheapest will win, instead it is based on criteria to give us the best technical requirements in an economically priced solution.

Category	No	Question	Response
Contractual	61	What involvement do you expect OFTOs to have in this (Wind) tender process?	Whilst we appreciate the independent nature of OFTO and the complexities offshore wind generators may have with these bodies, for the purpose of entering a commercial tender to provide restoration service providers should provide the study solution until GEP (Grid Entry Point) level at a single point of deliver, and it is strongly recommended that the provider should consider extending the study up to Grid Interface Point and taking into account the impact of OFTO network. As providers do not have control over the technical parameters at the OFTO level, we do not require them to include these arrangements in their ITT F2 reports. In the same way as we deal with TOs and DNOs in existing restoration contracts, the OFTO will be a part of the Local Joint Restoration Plan (LJRP) development which is done after the contract award and before the service goes live. Remember that in the event of a power outage, the market is suspended and therefore the generator will not need to provide any other services to the OFTO. Providers should inform us which OFTO is linked to their asset(s) and we encourage early engagement between the provider and the OFTO to understand if there are any potential red flags to service delivery. The ESO will not broker these engagements between the provider and the OFTO prior to any contract award.
Contractual	62	What information on tender responses will be published during the process?	We won't disclose any information that could identify an ESR provider but will aim to publish reportable information about awarded contracts, for example, technology types, total MWs, total costs.

Category	No	Question	Response
Contractual	63	Is there a standard contract duration or is it up to the bidder to propose? If so, what are the parameters?	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. We are currently considering 5 years for the contract durations.
Contractual	64	How would ESO interact with group-parties during this process, when dealing with joint proposals?	If your solution requires a multi-party approach, we follow a 'lead party' structure, where the lead party is the main point of contact and with who we will contract with. They will organise any supporting contracts necessary with the other parties.
Contractual	65	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.
Contractual	66	Joint Venture (JV) assets – what reassurance do ESO need around separateness of sites?	One point of contact for one service provider should be provided. If the ESR service contract is agreed and signed with a provider, that same provider will co-ordinate and be responsible for all the work related with JV partners.
Contractual	67	Main Contract Terms - Will a revised set of draft Wind-specific General Terms and Conditions be drafted, rather than the generic set used for regional tenders, in order to cater for the nuances brought about from Wind generation? As written, the risk of significant contractual penalties due to an intermittent fuel source is currently unmanageable for a Generator.	We will use the ESR Primary Service Terms as the main boilerplate for the wind tender, but providers will have an opportunity to feedback on any specific sections they are uncomfortable with.
Contractual	68	Are there penalties for non-delivery and are they the same against all providers IE anchor and all top up services?	The biggest penalty any provider in any of the categories can suffer is if you are unavailable for the provision of the service, that will mean that your availability payments will seize accordingly. The second one is about derogation from the contracted figures, your availability and performance is monitored and if it falls short of the contracted volumes then there are penalties that can be applied - these are all detailed in the Contract Terms. For Anchor Generators and Top-up services that are part of a DRZ, one party will not be penalised if the other party cannot fulfil their contract. the DNOs will monitor the availability of the whole DRZ, therefore if one provider is unavailable and in the event of a NPO, the DRZ may not be used.
Contractual	69	If the battery is fully discharged when the blackout happens, then	We would expect to see visibility of the BESS availability ahead of the event. If the blackout happens at the point in

Category	No	Question	Response
		BESS can't provide the Black start service. Will this be taken as unavailable or suffer the penalty?	time where the BESS is in a position that is unable to fulfil its contracted position, what we expect to have known about this.
Contractual	70	If a generator is unavailable due to an upstream DNO fault or other issue will the generator be penalised?	If the generator is unavailable due to an upstream DNO or TO fault, something outside their control, they will not be penalised.
Contractual	71	Can one NDA document be signed for multiple assets (across multiple Special Purpose Vehicle legal companies) if the holding companies and split of equity ownership is the same for all?	Yes, if the signatory of the NDA has holding company authorisation to sign on behalf of the SPVs.
Contractual	72	If a submission has been made for the Wind tender and a regional tender, presumably we cannot continue with both tenders?	You will only ever receive one contract from either tender if the same asset/solution has been entered in both. The provider will be awarded based on whichever tender closes first.

Category	No	Question	Response
Tender Process	73	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. 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.
Tender 6	74	Will the tender programme be impacted if another tenderer falls behind?	As per the tender rules, any changes to the timeline are at the ESO's discretion. The ESO will ask all interested parties to commit at EOI stage to meeting the timeline. The overall timeline will not be impacted if one tenderer does not meet it. If there are changes to timelines, all participants will be notified.
Tender Process	75	What would happen if our connection date is pushed back?	As per the tender rule 14, if you cannot meet the minimum requirements including being able to go live on the scheduled date then you would be exited from the tender.
Tender Process	76	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). 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).
Tender Process	77	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 have signed

Category	No	Question	Response
			the ITT F2 Study letter but would like to withdraw from the process, contact the ESO immediately. We advise that you ensure you complete and deliver the study to remain eligible for reimbursement.
Tender Process	78	For the avoidance of doubt, is this tender aimed at existing generation plants that can have equipment added to it, or new plants 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 the target commencement date at the very latest.
Tender Process	79	Why are anchor generator and top up service provider requirements not included in wind tender?	Through the wind tender, the ESO is seeking to provide additional resilience requirements for restoration services at transmission level. 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.
Tender Process	80	Outages for installation of equipment: any compensation for loss of income; flexibility regarding service commencement date?	Installation of equipment needs to be planned prior to service commencement. The project team will need to keep ESO informed of all progress and to mitigate any potential delays to service commencement.
Tender Process	81	Understanding the requirement of block loading can be very impedance depending - will NGET be able to issue developers with the black start energisation sequence for an area to allow more area specific scenarios to be modelled? Is a description of the of the start-up sequence available?	Not at this stage, but a detailed energisation sequence will be discussed with possible restoration route suggestion during the development of the Local Joint Restoration Plan which is post contract award.
Tender Process	82	Can the ESO indicate how many existing providers are within an existing zone, and their technology type to incentivise tenderers to take part?	No, provider information for restoration services is confidential. We are technology neutral, and we accept that incumbent providers starting points will be different, but the requirement is also evolving in alignment with the electricity system restoration standard and different technologies is something that we are considering in our process.
Tender Process	83	Is the intention that anchor generators and top up services work together within the DRZ to meet voltage frequency requirements of the network before the Power Island is connected into the wider grid	The expectation is that the combination of an anchor generator and a top up service as a minimum will be responsible for the creation, development and maintaining of a power island volume in complete isolation from the rest of the world. And at some point, you will seek to reconnect that power island with an adjacent Power Island at DNO level and/or seeking to energise up towards the

Category	No	Question	Response
			transmission level. Yes, maintain vaults, frequency, everything needed to continue or maintain the power island running.
Tender Process	84	Will this be open to new builds only or existing assets can participate as well?	Anyone that can meet the minimum technical requirements of the tender.
Tender Process	85	By connection agreement are you referring to a Bilateral Connection Agreement (BCA)?	Yes.
Tender Process	86	The tender states that the ESO is 'only accepting one submission per provider per category'. Can a provider of a prospective 'top-up' service also be included in the submission by another provider of a Primary Restoration service? For example, could a battery submit an EOI to provide a top-up service but also discuss with a potential Lead partner to support a provider to give a primary restoration service? Given that it may be difficult to agree contractual arrangements with a Lead Party, having the option of being able to do both provides maximum flexibility to the ESO and the provider.	Our Tender Rules state that 'a provider must not submit multiple solutions for the same asset(s) within the same category. For example, if a site comprises of a windfarm, solar and battery assets, the provider can opt to submit a solution using their windfarm and battery for Primary Services but cannot also submit the windfarm and solar for Primary Services.' We are only offering one contract for the service to the same provider. It is up to the provider to decide how they might want to form a solution using one or more of their assets. The solution will be assessed for the best achievable performance across other possible options.
Tender Process	87	If the tender submission is incomplete due to information unavailability, will you give participants a chance to clarify it?	At ITT F1, if there is information unavailable, please indicate clearly and include the reassurance that you will provide this evidence in the ITT F2 stage. Following a submission, during our evaluations, we also have a clarifications stage to ask the provider for missing information. Late submissions or blank answers are deemed non-compliant and will not be accepted for further evaluation.

Category	No	Question	Response
Assessment	88	Would all locations carry the same weighting / score equally e.g., onshore, offshore, England, Scotland?	Yes, all locations will carry the same weighting.
Assessment	89	Will submissions that deviate from the technical requirements be allowed?	We want to remove or minimise barriers to entry and are proposing to consider EOI submissions where the provider can meet almost all the technical requirements. It will be at the discretion of ESO to assess whether the provider would be able to contribute to a restoration however such EOI submissions are not guaranteed to be accepted.

Category	No	Question	Response
			Where applicable, reduced capability will be scored appropriately in the technical assessment and may be given a zero score for that section.
Assessment	90	What happens to the tender process if there are less bids than demand?	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.
Assessment	91	We have previously completed a F1/F2 Scope/F2 study that the ESO approved, can you confirm it is still valid?	If you wish to participate in the tender and have already completed one or more steps of the process, please notify us within your EOI and the ESO will formally respond to confirm the validity of your study. In any case submission of this information will require you to complete the mandatory forms per stage. You can repurpose your previously accepted content into the relevant tender documents you are applying to now.
Assessment	92	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?	Please notify us within your EOI. The 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. Note that the ESO has no obligation to accept requests for further funding and will reject proposals for work that could create a competitive advantage.
Assessment	93	Service commencement date: flexibility/penalties for delays (due to suitable dates for installation of equipment; test dates; delays in procuring equipment/caused by manufacturers)	ESO's expectation is that project plans are designed to meet the stated service commencement dates in the tender documents. Earlier go-live is incentivised but we will not permit later start dates as these impact on future tender service commencement cycles.
Assessment	94	What methodology will be used to monitor intermittent generation like wind's availability and resilience of supply?	We have released guidance on wind availability which can be found on our website under ITT F2 documents for the Wind Tender.
Assessment	95	Development of offshore wind capability to provide restoration services is in early stages and requires considerable work in terms of model and technology development. In F1 we may not be able to provide evidence for all the technical requirements, as some of the models still need to be developed as part of F2 to exactly show the OWF's technical capability. Will NG ESO be willing to accept F2 as the stage for complete technical submission for OWF with service start date of 2028?	Yes, that is acceptable. It is helpful to have some indication of the plan of your study, and what is expected to be achieved at F2.

Category	No	Question	Response
Assessment	96	Does the ESO need procure 1-2 per zone to ensure fairness in future regional ESR tenders?	Each zone's requirements are modelled based on what can be offered and therefore this determines how many per zone are required to meet Restoration Standards.
Assessment	97	Will green, low carbon technologies now be favoured over conventional technologies, and the evaluation process?	The ESO we will remain technology neutral, we won't favour any type of technology. This is a requirement driven process.
Assessment	98	Have the DRZ areas already been defined, or are they be driven by the locations of the generators and participants in the tender?	They are driven by the location of the assets who have participated. For Distributed ReStart type projects, the geographical location, and the combination of Anchor Generators with Top Up services will only be feasible within a given GSP and electrical connection.
Assessment	99	Is the commercial offer submitted in ITT stage one considered final or can it be amended to any degree in the FS2 submission?	The final commercial offer is submitted as part of the last FS2 submission. For the first part, we're not expecting you to outline a lot of the commercial values, just what is needed to be eligible for the final second stage.
Assessment	100	Will there be a formal consultation on the terms in the expression of interest stage?	Formal consultation will happen once the final terms are shared as part of ITT F1. In EOI, we will be sharing the draft terms and we will review any feedback. If any changes need to be undertaken, then this will be cascaded.
Assessment	101	Are the technical requirements and assessment criteria fixed or could they change during the tender?	Yes, these are fixed.
Assessment	102	Given the 50/50 (Commercial/Technical) alteration are you accepting that there should be more non delivery than 70/30?	One of the key drivers behind the move from 70/30 to 50/50 was removing barriers to entry for new technologies. If you are or if you were an incumbent provider and progressing with 70/30 on the commercial versus technical front, it was felt that that could potentially be a bottleneck for entry to market. The move to 50/50 is to indicate that we are valuing the technical aspects of the service you are planning to deliver more robustly so that we can enhance the score from a technical perspective.