Stage 1 Feasibility

F1 Report

|  |  |
| --- | --- |
| Provider Name | [ Complete ] |
| Site/Asset/Project Name | [ Complete ] |
| Submission Date | [ Complete ] |

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[1.2 Primary Restoration Service Provider 6](file:///S:\OandT\EBandET\Contracts\Services%20&%20Projects\Black%20Start\3.%20Service%20Info\New%20Provider%20Development\22-25%20Wind\Tender%20Documents\ITT%20Part%201\ITT1%20-%20Feasibility%20Study%201%20Submission%20Template.docx#_Toc112931014)

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Instructions

For this tender, wind service providers will be treated as primary restoration service providers, providing full-service requirements.

Please populate the front page with your company details. This document contains technical questions, the table below explains what sections you are required to complete. Please read this document in conjunction with Appendix 1 - Wind Tender Technical Requirements & Assessment Criteria

|  |  |
| --- | --- |
| Category | Complete sections |
| Primary Restoration Service Provider | Complete all questions within section 1.1 and 1.2  Complete table on Appendix 1  Please list all attachments in the format provided on page 11 |

Each of the tables below contains the technical requirements for each section and the format for the response. Please note there is a word count (excluding attachments). Please ensure all attachments are labelled clearly to reduce the number of clarifications. Please use the empty ‘Provider Response’ cells for your answer.

If you have any questions relating to the content of this document, please submit them using the Appendix 2 Wind Tender Query Form.

**Service Commencement Date**

Please indicate which service commencement period you can meet by ticking the box below:

☐ By December 2026 until 2031 (Minimum 5-year contract duration)

☐ By December 2026 until 2033 (Maximum 6.5-year contract duration)

☐ By December 2028 until 2033 (Minimum 5-year contract duration)



1.1 ESR Operation

General Description of the Service

|  |  |
| --- | --- |
| Requirement | - The proposed project, including description of assets and their current / expected capability to provide a ESR Service;  - Share the relevant Single Line Diagram of the Plant;  - Number of power generating modules expected to be included in the ESR Service (if applicable);  - High-level start-up sequence from black start up to the Minimum Stable Operating Level and, from that point, up to the contracted output. |
| Response Format | Text (no more than 500 words). For the start-up sequence, share a Table & Graphic highlighting key stages (milestones, hold points, etc.) and expected times. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Organisation / Site Arrangements

|  |  |
| --- | --- |
| Requirement | Please share how are you as an expecting to deliver the ESR Service (logistics).  Examples:   * How will you guarantee a 24h availability of the ESR Service? * Number of Control Room shift teams? * Staff response arrangements (if required); * ESR expected to be included in the annual Staff’s mandatory training.   Site locations and logistics (telephone calls on site, distance to site) |
| Response Format | Text (no more than 500 words). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

ESR Auxiliary Unit(s)

|  |  |
| --- | --- |
| Requirement | Please share:  - Information around any existing assets (if applicable);  - Potential new needs:   1. Expected House Load / size for the ESR Auxiliary Unit(s) 2. Assessment/comparison of advantages/disadvantages for potential options (different technologies, costs, risks for reliability, environment, site constraints); 3. Preferred option including evidence of initial discussions on relevant environmental permits and planning permissions required.;   - Demonstrate that the final preferred solution involving existing and/or new assets is compliant with the minimum resilience requirement (≥72h). |
| Response Format | Text (no more than 500 words). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Communication Systems

|  |  |
| --- | --- |
| Requirement | Please share details of any existing telecommunications and systems (telephony, SCADA, text messages, Satellite Phones, etc.); particularly related resilience under Black Start conditions. |
| Response Format | Text (no more than 500 words). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Project Timescales

|  |  |
| --- | --- |
| Requirement | A programme for all provider activities required to achieve the ESR capability.  Please attach a project programme including all provider activities that are necessary between contract award and service commencement date, including for example:   * Construction works (where applicable) * Long lead time procurement (where applicable) * Communication system upgrades (where applicable) * Control System upgrades (where applicable)   A statement confirming ability to deliver the ESR Service earlier than / by December 2026. |
| Response Format | Text (no more than 500 words) + Gantt Chart (or equivalent). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |



1.2 Primary Restoration Service Provider

Time to Connect

|  |  |
| --- | --- |
| Requirement | *≤ 2hours. Time taken to start-up the Restoration Station from shutdown without the use of external power supplies, and to energise part of the NETS, within two hours of receiving an instruction from the Electricity System Operator (ESO) or its delegate.* |
| Response Format | Text (no more than 100 words). If applicable, consider effect of warmth – Hot, Warm, Cold. Detail key stages of the Restoration and timings. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Service Availability

|  |  |
| --- | --- |
| Requirement | ≥ 80%. *The ability to deliver the contracted ESR Service over 80% of a year. Note: It is the responsibility of the Provider to demonstrate its service availability. By submitting a tender, the provider commits to ensuring availability at least 80% of each year of the service.* |
| Response Format | Text (no more than 300 words). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Voltage Regulation

|  |  |
| --- | --- |
| Requirement | Existent. *Ability to create a voltage source and remain connected within acceptable limits during energisation/block loading (±10%).* |
| Response Format | Text (no more than 300 words). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Frequency Regulation

|  |  |
| --- | --- |
| Requirement | Existent. *Ability to manage frequency level when block loading (47.5Hz – 52Hz), at 10MW block load and the maximum block load capability.* |
| Response Format | Text (no more than 300 words). |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Resilience of Supply – ESR Service

|  |  |
| --- | --- |
| Requirement | ≥ 10h. *When instructed, the minimum time the RSP will deliver the contracted service.* |
| Response Format | Text (no more than 300 words). Explain how the Provider will ensure the ESR Auxiliary Unit will have the expected resilience. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Resilience of Supply – ESR Auxiliary Unit(s)

|  |  |
| --- | --- |
| Requirement | ≥ 72h. *Run continuously at the output required to support / deliver the contracted restoration Service* |
| Response Format | Text (no more than 300 words). Explain how the Provider will ensure the ESR Auxiliary Unit will have the expected resilience. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Block Loading Capability

|  |  |
| --- | --- |
| Requirement | ≥ 10MW. *Capability to accept instantaneous loading of demand blocks.* |
| Response Format | Text (no more than 300 words) + Table + Graphic. If applicable, explain the impact of temperature (Hot, War, Cold) on the block loading capability. Share the expected block loading profile up to the contracted output, including maximum sizes of each block, time between blocks and any hold/critical load points. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Reactive Capability

|  |  |
| --- | --- |
| Requirement | ≥ 50MVAr Leading. Ability to energise part of the NETS, managing Voltage with Leading or lagging capability whilst active power is zero. |
| Response Format | Text (no more than 300 words) + Table + Generator Capability Curve. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Sequential Restoration attempts

|  |  |
| --- | --- |
| Requirement | ≥ 3. *Ability to perform at least three sequential start-ups.* |
| Response Format | Text (no more than 500 words). Explain how you will be able to deliver a minimum of 3 sequential start-ups at any stage of restoration (to allow for possible tripping of the Transmission or Distribution Networks during the re-instatement period, or trips during the ESR Service Provider’s own starting sequence). Demonstrate how all generating units (if applicable) can be safely shutdown without the need for external supplies and can be maintained in a state of readiness for subsequent start-ups. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Short-circuit Level (following the start of a system disturbance)

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| --- | --- |
| Requirement | t≤80ms: I ≥ [kA]; t>80ms: I ≥ [kA], U ≡ connection voltage [kV]  *Injection of reactive current during a disturbance.* |
| Response Format | Text (no more than 500 words). Explain/demonstrate how can you meet the requirement. This can be done from Fault Ride Through test evidence, or in the case of a synchronous generator, Grid code DRC schedule1 modelling data being provided as an alternative. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
| **Response** |  |

Inertia Value

|  |  |
| --- | --- |
| Requirement | ≥400 MVA.s. Stored energy available in the RSP for immediate release in response to changes in power levels and thereby helping to maintain frequency and voltage on the power island within acceptable bounds. (This can be real, physical inertia as in a rotating machine, or virtual inertia as in converter-connected resources with suitable control). |
| Response Format | Text (no more than 500 words). Explain/demonstrate how can you meet the requirement. |
| Attachments | *Please include the titles of any attachments associated to this section.* |
|  |  |

List of Attachments

|  |  |  |
| --- | --- | --- |
| **Appendix**  **Num.** | Document | File name as submitted |
| **1** |  |  |
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Appendices

Appendix 1 – Primary Service

|  |  |  |  |
| --- | --- | --- | --- |
| Ref | Requirement | Provider Expected Capability following F1 | Reference to F1 section evidencing the requirement |
| 1.01 | Time to Connect |  |  |
| 1.02 | Service Availability |  |  |
| 1.03a | Voltage Control (Leading) |  |  |
| 1.03b | Voltage Control (Lagging) |  |  |
| 1.04a | Frequency Control (Lower) |  |  |
| 1.04b | Frequency Control (Upper) |  |  |
| 1.05 | Resilience of supply, Black Start Service |  |  |
| 1.06 | Resilience of Supply, BS Auxiliary Unit(s) |  |  |
| 1.07 | Block loading size |  |  |
| 1.08 | Reactive Capability |  |  |
| 1.09 | Sequential Black Starts |  |  |
| 1.10 | Short Circuit Level |  |  |
| 1.11 | Inertia Value |  |  |

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