FIVE ESTUARIES
OFFSHORE WIND FARM

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10.64 RESPONSE TO RULE 17 LETTER - 27 FEBRUARY 2025

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DEFINITION OF ACRONYMS

Term	Definition
BNG	Biodiversity Net Gain
CSM	Conceptual Site Model
DC	Design Council
DCO	Development Consent Order
GWRA	Groundwater Risk Assessment
HDD	Horizontal Directional Drilling
NF	North Falls Offshore Wind Farm
NGET	National Grid Electricity Transmission
OLEMP	Outline Landscape and Ecological Management Plan
PEIR	Preliminary Environmental Impact Report
PWS	Private Water Supply
RLB	Red Line Boundary
VEOWF	Five Estuaries Offshore Wind Farm

1. GENERATING CAPACITY FOR THE PROPOSED DEVELOPMENT

1.1 TEXT OF EXA'S REQUEST

1.1.1 In [REP2-039] in responding to ExA written question GC.1.03 you advised that the installed generating capacity for the proposed development would be close to 1.0 gigawatt (GW). The applicant is no doubt aware that with respect to the matter of wake loss the ExA requested East Anglia Two Limited submit an estimate for the annual generating output (in megawatt hours (MWh) or GW hours) for the East Anglia Two Offshore Wind Farm with and without the proposed development [PD-031]. In considering the wake loss case being made by East Anglia Two Limited it would assist the ExA to have similar estimated generating output information for the proposed Five Estuaries Offshore Wind Farm. You are therefore requested to submit an estimate for the annual generating output for the proposed development in MWh or GWh.

1.1.2 se being made by East Anglia Two Limited it would assist the ExA to have similar estimated generating output information for the proposed Five Estuaries Offshore Wind Farm. You are therefore requested to submit an estimate for the annual generating output for the proposed development in MWh or GWh.

1.1.3 In responding to this request for further information you should: a) identify the load factor relied on for deriving the estimate for the generating output for the proposed development; and b) provide the workings for the calculation.

1.2 APPLICANT'S RESPONSE

1.2.1 The Applicant has prepared a separate document, 10.64.1 Response to East Anglia Two's Deadline 7 submissions and the ExA's Rule 17 Request, to respond to this request, which has been submitted at Deadline 8.

2. COORDINATION DOCUMENT

2.1 TEXT OF EXA'S REQUEST

2.1.1 The Applicant has advised in Sections 2.2 and 4.1 of the "Coordination Document" [APP-263] of the intention for a jointly authored updated Coordination Document to be submitted following the submission of the application for the proposed North Falls Offshore Wind Farm (North Falls).

2.1.2 The ExA considers that the Coordination Document should now be updated and submitted as a revised examination document, with an emphasis on explaining how both projects' mitigation measures would be coordinated (ie addressing the matters referred to in paragraph 4.1.4 of [APP-263]). That is because the examination for the Five Estuaries application is drawing to a conclusion, while the proposals for North Falls have crystallised, given the application for that project was submitted over six months ago and in some instances there are differences of approach.

2.2 APPLICANT'S RESPONSE

2.2.1 The Applicant has updated 9.30 Coordination Document [APP-263] as requested, which has been submitted at Deadline 8 as Revision B.

3. REVISED GROUND WATER RISK ASSESSMENT

3.1 TEXT OF EXA'S REQUEST

3.1.1 Further to the receipt of the revised version of the "Ground Water Risk Assessment" (Revision B) at Deadline 6 [REP6-017], the ExA notes that the applicant commented in [REP6-001] that:

3.1.2 "There has been significant restructuring of this document from Revision A, including addition of appendices, making a tracked version of the document difficult to read. As such a tracked version has not been submitted but can be produced on request."

3.1.3 The ExA considers that the submission of a tracked version of [REP6-017] is unnecessary. However, the ExA considers a summary of the changes incorporated into [REP6-017] as compared with the originally submitted version of this document [APP-159] should be submitted to assist other interested parties' and the ExA's understanding of the extensive revisions that were made at Deadline 6. Accordingly, the applicant should submit a summary of the revisions made to the Ground Water Risk Assessment in [REP6-017].

3.1.4 That summary should also include an explanation as to why a significantly amended document has been submitted at such a late stage in the examination.

3.2 APPLICANT'S RESPONSE

3.2.1 The Groundwater Risk Assessment – Revision B [REP6-017] was been submitted as an updated risk assessment to the originally submitted application document [APP-159]. APP-159 was developed as effectively a "preliminary" groundwater risk assessment (PGWRA) to identify all water supplies which could theoretically be impacted by the construction activities and to help inform the extent of the more comprehensive groundwater risk assessment to be developed at a later date.

3.2.2 One of the recommendations from the PGWRA [APP-159] was the completion of a water features survey to confirm the location, source and construction of all private water supplies identified and to confirm whether they were still in use. This was originally proposed to be undertaken post consent and the original drafting of the associated DCO requirement reflected this.

3.2.3 The Applicant noted in its response to WE.1.04 in 10.28 Applicant's response to EXQ2 [REP4-039] that "The Applicant is not able to submit the actual monitoring data due to commercial implications and confidentiality clauses, however the Applicant can provide a revision to 6.6.6.1 Groundwater Risk Assessment [APP-159] which includes the available data for Deadline 6."

3.2.4 It was not possible to complete this assessment prior to Deadline 6 as the timing of the assessment was dictated by the availability of additional survey and monitoring data used to inform the updated assessment. The Applicant also needed to discuss the updated proposals with the Environment Agency and liaison was required with North Falls to ensure that the proposed monitoring put forward was agreed by both projects.

3.2.5 A survey and water quality monitoring of the locations identified in the PGWRA, plus several others identified subsequently, was completed in September 2024 and this information has been used to inform the updated Ground Water Risk Assessment [REP6-017]. This has identified the need for a Ground Water Monitoring Plan included as an Appendix within REP6-017 (and now submitted as a standalone document at this Deadline), which is secured through the updated DCO requirement, provided at Deadline 6.

3.2.6 A number of comments on groundwater were received from Environment Agency, which are included in the 10.10.7 Environment Agency Statement of Common Ground [REP5-053]. The Applicant has addressed these through the updates to the GWRA [REP6-017] and these points are now agreed as resolved in the updated Environment Agency SoCG to be submitted imminently.

3.2.7 The updated groundwater risk assessment [REP6-017] therefore addresses Environment Agency comments, uses the information from the PGWRA and additional site survey information completed since submission to develop a more comprehensive risk assessment and associated monitoring proposals. The Applicant considers that this provides greater certainty to those affected PWS users that monitoring and associated mitigation is secured. The revised GWRA should therefore be considered as a follow-up to the originally submitted report [APP-159] rather than a revision to the report and should be read as such.

3.2.8 In summary the primary revisions include:

- Inclusion of a scoping section (Section 1.4) and related appendix (Appendix 1) summarising the work completed previously and providing justification for the water supply locations included within this assessment, including the inclusion of 7 No. Additional private water supplies identified through the private water supply monitoring and consultation with land agents;
- Updates to the baseline conditions (Section 2.0) particularly with relation to the geology and hydrogeology using monitoring data (i.e. groundwater level monitoring) from private water supply monitoring;
- Updated radius of influence and dewatering calculations based on the improved baseline characterisation (Section 2.3.3);
- Revisions to the Conceptual Site Model (CSM) (Section 3.0) based on the above;
- Updated location specific CSM (section 4.2) for all of the identified water supplies included within the assessment and utilising the additional information from the baseline characterisation;
- Addition of a risk assessment chapter (section 4.3) to assess potential impacts on the water supplies confirmed from the location specific CSM. The impact assessment includes the following:
    - Overview of embedded mitigation;
    - Assessment of impacts on groundwater levels and flow;
    - Assessment of impacts on groundwater quality including from construction works, trenching and the use of cement bound sand, hydraulic fracturing ‘frac-out’ from HDD drilling and potential impact from the use of piling
- Inclusion of a monitoring and mitigation section (Section 4.4) which outlined need for additional survey, monitoring requirements and potential mitigation

requirements during construction (included as Appendix 2) and outlining potential permitting requirements;

- Two additional appendices are included within the report; Appendix 1 provides a summary of abstractions scoped in and out of the risk assessment and appendix 2 is an outline groundwater monitoring and mitigation plan; and
- All drawings have been updated to include the water supply locations included within the risk assessment.

3.2.9 A subsequent revision of the Groundwater Risk Assessment is provided at Deadline 8 to correct some minor typos and include the location of PWS013 (located in the same location of PWS010 at Welhams Farm) on the Drawings 2.1, 3.1 and 4.0 which was a noticed omission on review. A clean standalone version of Appendix 02 has also been submitted at Deadline 8 to be a certified document as 10.65 Outline Groundwater Monitoring Plan.

4. DESIGNING THE ONSHORE SUBSTATION ZONE

4.1 TEXT OF EXA'S REQUEST

4.1.1 The ExA in [PD-030] requested the applicant to provide information about the design review of the onshore substation zone undertaken by the Design Council. The applicant's response is provided in [REP6A-003] and following the submission of that document the ExA seeks the submission of the following further information:

(a) The second and third project reviews undertaken by the Design Council, respectively in March/April and June 2024, postdate the submission of the Five Estuaries application. The applicant should explain how the second and third design review rounds informed the formulation of the proposals for the onshore substation zone included in the application for the proposed Five Estuaries Offshore Wind Farm.

(b) Identify the information that was presented to the Design Council when it undertook its first review of the proposals for the Five Estuaries and North Falls Offshore Wind Farms in December 2023. In responding to this request for information, the applicant should submit copies of any equivalent versions of Drawings 1 to 4 now included in the Outline Landscape and Ecological Management Plan [REP6-026].

(c) *Within [REP6A-003] and the "Onshore Substation Design Principles Document" [REP6-018] there is reference to the Five Estuaries and North Falls projects working together to develop a "Design Guide". Explain how it is intended compliance with the previously mentioned Design Guide would be secured in any development consent order that might be made.*

4.2 APPLICANT'S RESPONSE

POINT A – EFFECTS OF THE ENGAGEMENT WITH DESIGN COUNCIL IN THE PROPOSALS

4.2.1 Engagement with the Design Council (DC) review process was jointly undertaken by the Applicant and North Falls. It should be noted that the process was initiated and led by North Falls and programmed to reflect their submission timetable. Initially planned as a two stage process, an extra third step was added by North Falls to review their final Design Vision document prior to their submission. Engagement with the DC and the feedback received as a result of all the stages was taken on board in developing the designs for application. Further information is included in 10.53 Response to Rule 17 Request - 17 February 2025 [REP6A-003].

4.2.2 The three DC reviews are set out below:

- **First review (December 2023)** – this first main review included a site visit and face-to-face discussion of initial concepts. The topic areas discussed were vision, sustainability, carbon and circular economy, optioneering, landscape, phasing, and community engagement. Feedback provided here helped to inform the Applicant's landscaping proposals in the OLEMP and design principles document for submission.
- **Second review (March 2024)** – The Applicant presented its final landscaping proposals. The topic areas discussed were detailed design approach, sustainability, biodiversity net gain, landscape mitigation, landform and topography, drainage, management and maintenance of landscape, noise attenuation, architecture and surrounding context of the project proposals within the landscape. Feedback received at this stage has guided updates to

documents through the examination and will be used for the future development of the Design Guide.

- **Third review (June 2024)** – As noted above, this meeting was to provide a final update by North Falls on their Design Vision document to complete their design review process. The Applicant attended as an observer and has considered the feedback given and where appropriate it will is or will be incorporated it into the future Design Guide process.

4.2.3 The DC's comments at the second and third design review rounds in general were more detail focussed and topics that would be picked up through the Design Guide / detailed design. Set out below are some examples of how the DC comments, taken alongside feedback by other Interested Parties have helped to inform the updates to the design documents / next steps:

- **Sustainability:** many of the comments focus on the sustainable design of the onshore substations including low carbon initiatives associated with the whole life of the project and how carbon emissions can be reduced and sustainability optimised. As a result, the Applicant will develop a sustainability and low carbon strategy, to be outlined in the Design Guide.
- **Materiality**: the DC questions the use of particular materials for the onshore substation. The Design Guide will include a section on materials and finishes, including consideration of fences, boundaries and hard surfaces.

POINT B – INFORMATION PRESENTED TO DESIGN COUNCIL ON FIRST REVIEW STAGE

4.2.4 At the first review stage, the Applicant and North Falls provided a briefing pack of information – this included feedback received from consultations, details on the site context, site constraints and information on the existing visual amenity. It set out the proposed approach by the two projects to design and the proposed red line boundary (as detailed in the PEIR), identifying the indicative co-located compound locations for the two onshore substations.

4.2.5 Equivalent versions of Drawings 1 to 4 now included in the OLEMP, or any detailed landscaping concepts, were not available to share at this point, with the DC feedback supporting their development. Appendix 1 includes the limited site layout information provided to the design council to inform the initial discussions.

POINT C – DESIGN GUIDE SECURED

4.2.6 The Applicant has committed to producing a Design Guide to inform the detailed design proposals in 9.4 Onshore Substation Design Principles Document – Revision B [REP6-018]. Compliance with the onshore substation design principles document is secured by Requirement 5 (2) in the draft DCO:

4.2.7 "The details submitted under sub-paragraph (1) of this requirement must be in accordance with sub-paragraph (3) and substantially in accordance with the onshore substation design principles document".

4.2.8 The Applicant believes that it would be required to produce the design guide, committed to in 9.4 Onshore Substation Design Principles Document for it to be in compliance with this requirement when submitting the detailed design for approval.

4.2.9 However, the Applicant following discussion with ECC proposes to include the following wording (additional text shown in **bold** underline) within Requirement 5(2) in the updated dDCO to be submitted at Deadline 8A:

"5 (2) The details submitted under sub-paragraph (1) of this requirement must be in accordance with sub-paragraph (3) and substantially in accordance with the onshore substation design principles document, ***including the design review process set out in section 2.3 "design review process" thereof and any Design Guide****"*

APPENDIX 1: SITE LAYOUT PRESENTED TO THE DESIGN COUNCIL

Site Layout

84. The configuration/layout of the electrical infrastructure will be constrained by operational, construction and technical requirements.

85. The site layout parameters include:

- Maximum onshore substation platform footprint - 267 x 300m; and
- Indicative construction compound dimensions - 150 x 250m.

86. Design Vision considerations for the site layout includes:

- Producing a buildable and functional substation that satisfies engineering and operational requirements;
- Reducing visual impact of the onshore substation in the local landscape and for visual receptors; and
- Creating an economical arrangement that minimises the overall footprint size and landtake from the agricultural landscape.

Built Form

87. The type of built form used for the onshore substations will depend on the selected technology,

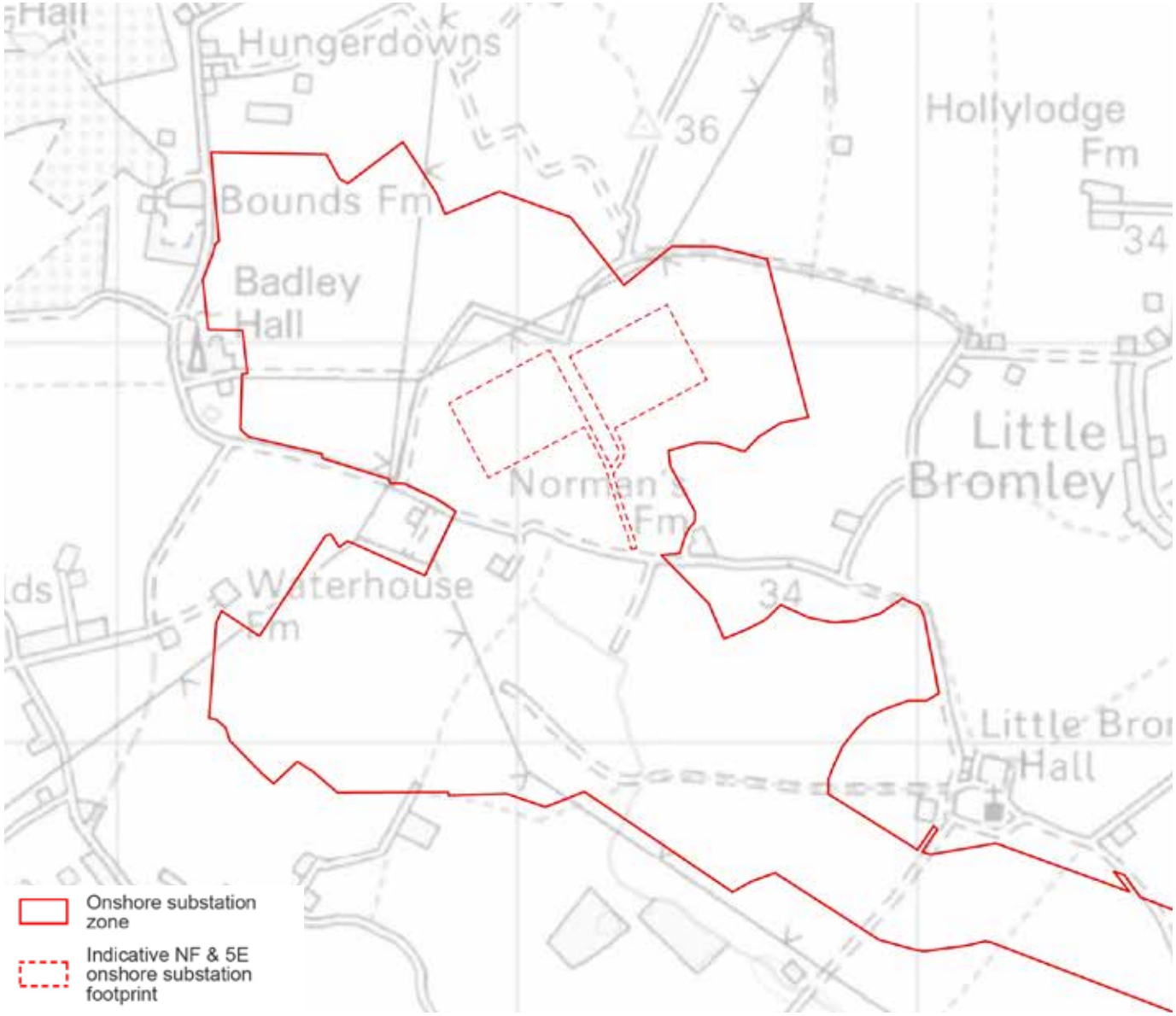

Fig 17 - Indicative North Falls & Five Estuaries coordinated site plan

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