



East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Responses to the Secretary of State's Questions of 20th December 2021 (Items 8)

Applicants: East Anglia ONE North Limited and East Anglia TWO Limited

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Glossary of Acronyms

DCO	Development Consent Order
CoCP	Code of Construction Practice
SCC	Suffolk County Council
SoS	Secretary of State for Business, Energy and Industrial Strategy

Glossary of Terminology

Applicants	East Anglia TWO Limited / East Anglia ONE North Limited
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.

1 Introduction

1. This document has been prepared by East Anglia TWO Limited and East Anglia ONE North Limited (the Applicants) in relation to the East Anglia TWO and East Anglia ONE North Development Consent Order (DCO) applications (the Applications). It provides information in response to item 8 of the letters published by the Secretary of State for Business, Energy and Industrial Strategy (SoS) on 20th December 2021 (the SoS letters).
2. Although the SoS letters relate to the East Anglia TWO and East Anglia ONE North Offshore Windfarm projects respectively, the contents of each are identical. This document is therefore applicable to both projects (the Projects).

1.1 Purpose

3. This document provides a response to item 8ii and 8iii of the SoS letters. The Applicants have not been invited to comment on item 8i and 8iv of the SoS letters and therefore no comments have been submitted.
4. The structure of the remainder of this document is as follows:
 - **Section 2** provides a response to item 8ii of the SoS letters and confirms that a 1 in 30 year storm event return period can be accommodated within the Order limits at the substation area during construction; and
 - **Section 3** provides a response to item 8iii of the SoS letters regarding alternative measures that could be implemented during construction of the Projects.
5. In preparing this response, the Applicants have engaged with Suffolk County Council (SCC) on a number of occasions, including meetings on 23rd December 2021, 13th January 2022 and 24th January 2022.

2 Item 8ii: Construction Drainage at the Substation Area

6. Item 8ii of the SoS letters states:

“The Applicant is requested to provide further details of how the 1 in 30 year storm event return period for the onshore substation and National Grid infrastructure locations could be accommodated within the Order Limits”.

7. In **Applicants' Responses to the Secretary of State's Questions of 2nd November 2021 (Item 3)** the Applicants committed to increasing the storm event return period accommodated in the Projects' construction drainage scheme from a 1 in 15 to a 1 in 30 year event for Work Nos. 30, 31, 34, 38, 41 and 42. An updated **Figure 2 (Appendix 2)** of the updated **Outline CoCP** demonstrates that the required storage volume for a 1 in 30 storm event can be accommodated within the Order limits alongside the other infrastructure (e.g. the operational footprint of the onshore substations; the National Grid substation; the operational SUDS basins; and the footprints of temporary infrastructure such as the construction consolidation sites).
8. The Applicants proposed within **Applicants' Responses to the Secretary of State's Questions of 2nd November 2021** that this change to a 1 in 30 year design be secured through an update to the **draft DCO** (document reference 3.1). However, following the publication of the SoS letters dated 20th December 2021, this commitment will be now secured through an update to the **Outline Code of Construction Practice (CoCP)** (document reference 8.1), which is a certified document.
9. The work numbers to which this design standard applies (Work Nos. 30, 31, 34, 38, 41 and 42) are appropriate and relate to construction activities associated with the prolonged construction activities of the substation area. It is not appropriate to include periodic works along the overhead lines or landscaping areas given that these are short-term activities in the context of the onshore substation and National Grid substation construction.
10. The updated **Outline CoCP** has been included within the Applicants' submission of 31st January 2022. **Section 11.1.5** of the document presents the overall surface water storage volume required for the 1 in 30 year storm event return period (14,979m³), along with the information used and assumptions made in calculating them including:

- Attenuation only, with a rate of discharge no greater than the existing greenfield runoff rate, unless otherwise agreed within the final CoCP that a higher rate can be accommodated;
 - No allowance for climate change, given the overall duration of the construction programme;
 - Temporary basin(s) with a design depth of up to 1m (plus freeboard). The final depth of the temporary basin(s) will be subject to detailed design and depths may be greater provided adequate safety mechanism are in place;
 - 3,300m³ additional storage provided to offset the removal of existing depressions on the assumption that they do not function as natural soakaways during construction; and
 - Impermeable surfaces which comprise the operational and construction footprints associated with both the East Anglia TWO, East Anglia ONE North and National Grid substations, together with supporting infrastructure such as access roads and CCSs.
11. Multiple basins are likely to be provided across the site to accommodate the required surface water storage volume; the exact location and specification of each basin will be determined as part of the detailed design process.
12. An indicative general arrangement for such a surface water drainage scheme is presented on an updated **Figure 2** in **Appendix 2** of the updated **Outline CoCP**. This demonstrates that the required storage volume for a 1 in 30 storm event can be accommodated within the Order limits alongside the other infrastructure (e.g. the operational footprint of the onshore substations; the National Grid substation; the operational SUDS basins; and the footprints of temporary infrastructure such as the construction consolidation sites).
13. The indicative general arrangement shown on **Figure 2** takes into account the existing terrain to ensure the surface water basins are appropriately located downstream of the working areas. Areas to the north of the existing 400kV overhead line are uphill of the construction works and therefore are of no benefit for managing surface water from the construction works.
14. Whilst the total storage volume provided by the basins illustrated on **Figure 2** (15,600m³) is greater than the required 14,979m³ to reflect terrain and their necessary irregular shaping, the design of final basins will be deepened to accommodate an additional 300mm freeboard (albeit this does not affect the footprint of the basins shown in Figure 2).
15. It should be noted that there are no current policies or relevant guidance regarding the provision of temporary drainage schemes to specified storm event return periods. Attention should also be drawn to the Outline CoCP documents

for comparable offshore windfarm projects in the North Sea to the East of England, including Dogger Bank Teesside A / Sofia, Norfolk Boreas and Hornsea 2, 3 and 4. Whilst none of the construction drainage proposals within these documents prescribe a design storm event return period, and where available, the final CoCP documents do not state the storm return period on which construction surface water is designed, the Applicant has committed to providing a robust and deliverable construction surface water drainage strategy to ensure storm events up to 1 in 30 years are contained within the surface water management system and released in a controlled manner after the peak of any storm event, thereby reducing the flood risk downstream.

16. By implementing the proposed construction surface water drainage measures, not only will there be no increased risk of flooding to the surrounding area as a result of the Project, but there will be downstream benefits for locations such as Friston as the attenuation and controlled release of surface water from the site during extreme events will ensure that its flow is reduced when compared to the existing situation.
17. The 1 in 30 year storm event return period within the construction drainage design for the onshore substations and National Grid infrastructure further reduces the uncontrolled flows from the substations site towards Friston.

3 Item 8iii: Alternative Mitigation Measures

18. Item 8iii of the SoS letters states:

“The Applicant and Suffolk County Council are requested to provide details of any alternative mitigation measures, aside from those already within the construction surface water drainage proposal, which could be implemented to alleviate the risk to local residents if a flood event were to occur”.

19. Measures already committed to within the **Outline CoCP** (document reference 8.1) present a comprehensive range of measures to mitigate flood risk and control surface water management. These include:

- Production of a Surface Water and Drainage Management Plan and a Flood Management Plan to be approved by the relevant planning authority (as per Requirement 22 of the **draft DCO** (document reference 3.1));
- Sediment management measures (see **Section 11.1.1** of the **Outline CoCP**) which confirms compliance with the Environment Agency's Pollution Prevention Guidance notes and CIRIA's 'Control of water pollution from construction sites: Guidance for consultants and contractors (C532) – A guide to good practice' (2001), and demonstrates how the onshore cable route construction surface water management measures can be accommodated within the Order limits;
- Pollution prevention measures (see **Section 11.1.2** of the **Outline CoCP**) to protect groundwater and surface waters and make provision for hydrogeological risk assessments to be undertaken during the detailed design stage;
- Watercourse crossing measures (see **Section 11.1.3** of the **Outline CoCP**) to protect watercourses during construction, in particular at the Hundred River; and
- Surface water drainage measures (see **Section 11.1.4, 11.1.5 and 11.1.6** of the **Outline CoCP**) which recognises the importance of maintaining existing land drainage systems during construction and details the construction surface water control measures (including design storm return periods) for the onshore cable route (1 in 10 years in line with CIRIA Report C648 on the Control of Pollution from Linear Construction Project Technical Guidance) and substation area (amended to 1 in 30 years).

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20. The Applicants have also updated **Section 11.1.7 of the Outline CoCP** (document reference 8.1) to reinforce existing mitigation measures for inclusion within the final construction phase Flood Management Plan, including:
- Secondary surface water management measures if required, such as small bunding to contain small, localised areas of surface water ponding within the Order limits, and the creation of associated drainage channels or cut-off ditches if required;
 - Regular checking of surface water storage basins to ensure continued availability;
 - Provision of access to maintain and observe flood control measures during rainfall events;
 - Regular checking and drain down as required to ensure that capacity of the construction suds basins is available ahead of any heavy rainfall events forecast;
 - Post heavy rainfall events, a review will be undertaken to identify measures that were effective in controlling surface water and any additional measures that could be reasonably undertaken to address surface water run off where required; and
 - In advance of any heavy rainfall events forecast, so as far as is reasonably practicable, no new work phases will be opened, the site readied for a forecast storm event by securing work areas and ensuring the construction surface water system is clear and able to operate efficiently.
21. In addition to the comprehensive measures presented within the **Outline CoCP** (document reference 8.1), including the commitment to utilising a 1 in 30 year storm return design at the substation area, the Applicants have engaged with SCC on additional measures which could be implemented outside the Projects' Order limits to address existing flood risk within the village of Friston. As noted within the **Statement of Common Ground: East Suffolk Council and Suffolk County Council** (REP12-070):
- “Flood events in the Friston area, resulting from overland flow, that occurred during late 2019 – early 2020 was a result of multiple flow paths and not a direct result of surface water runoff from land associated with the proposed site of the onshore substation or the National Grid infrastructure”.*
22. Indeed, analysis of the data within the Friston Surface Water Study Technical Report produced (BMT on behalf of SCC, 2020), indicates that the catchment within which the substations are located contributes approximately 7% of the surface water flows within Friston. Furthermore, the construction surface water management measures proposed by the Applicant will reduce the flood risk
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- downstream by effectively holding the surface water during a storm event rather than it flowing uncontrolled downstream as is the current situation.
23. Notwithstanding the above, the Applicants have considered additional measures to address the existing flood risk.
 24. The Applicants hereby confirm that a Flood Resilience Fund will be established by the Applicants to the value of £500,000, which will provide funding for local residents, community groups, SCC and other statutory bodies to undertake flood resilience measures and therefore assist in alleviating the existing flood risk to local residents if a flood event were to occur.
 25. The Applicants' will promote the existence of the fund; and will provide technical support for members of the public or community groups to assist in their application for funding if requested. Any works funded under the Flood Resilience Fund must be undertaken by the individual or organisation requesting the funding given that the works would be focused on addressing existing flood risk.
 26. The Projects' Flood Resilience Fund will be available for applications from 6 months prior to construction of the onshore substation associated with the first Project to commence construction until 6 months following completion of this onshore construction and will be available for flood resilience measures in the general vicinity of the onshore development area.
 27. Options to administer the Flood Resilience Fund include a Section 111 with SCC (under the Local Government Act 1972); a charitable trust (such as the Suffolk Community Foundation with whom the Applicants are discussing the administration of the Projects' separate £2.5m Community Benefit Fund; or through ScottishPower Renewables (parent company of the Applicants). The mechanism for administering and governing the Flood Resilience Fund will be established prior to its implementation date.
 28. The Flood Resilience Fund represents an important opportunity to provide measures to address existing flood risk.