



East Anglia TWO Offshore Windfarm

Safety Zone Statement

Applicant: East Anglia TWO Limited
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Glossary of Acronyms

BEIS	Secretary of State for Business, Energy and Industrial Strategy
DCO	Development Consent Order
MCA	Maritime and Coastguard Agency
NRA	Navigational Risk Assessment
NSIP	Nationally Significant Infrastructure Project
OREI	Offshore Renewable Energy Installations

Glossary of Terminology

Applicant	East Anglia TWO Limited.
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
Development area	The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order).
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.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Meteorological mast	An offshore structure which contains metrological instruments used for wind data acquisition.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.
Monitoring buoys	Buoys to monitor <i>in situ</i> condition within the windfarm, for example wave and metocean conditions.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.
Offshore development area	The East Anglia TWO windfarm site and offshore cable corridor (up to Mean High Water Springs).
Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.

Offshore electrical platform	A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Offshore platform	A collective term for the construction, operation and maintenance platform and the offshore electrical platforms.
Onshore infrastructure	The combined name for all of the onshore infrastructure associated with the proposed East Anglia TWO project from landfall to the connection to the national electricity grid.
Platform link cable	Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.

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Safety Zone Statement

1 Summary

1. East Anglia TWO Limited (the “Applicant”) is planning to develop the East Anglia TWO Offshore Windfarm (the “Project”) consisting of an offshore generating station, located approximately 37.3km from the port of Lowestoft and 32.6km from Southwold and covering an area of approximately 218.4km², together with associated development to connect the generating station to the national electricity grid.
2. The Project will, amongst other things, comprise of up to 75 wind turbines, up to four offshore electrical platforms, up to one offshore construction, operation and maintenance platform and up to one offshore meteorological mast.
3. The total installed electricity generating capacity of the Project will exceed 100 MW and the Project is therefore a Nationally Significant Infrastructure Project (“NSIP”). The Applicant is therefore submitting an application to the Secretary of State under Section 37 of the Planning Act 2008 for a Development Consent Order (“DCO”) for the construction, operation, maintenance and decommissioning of the Project.
4. This Safety Zone Statement has been prepared in accordance with Regulation 6(1)(b)(ii) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the “APFP Regulations”) which requires the applicant for a DCO for the construction of an offshore generating station to provide a statement as to whether applications will be made for safety zones.
5. This Statement outlines the legislative requirements relating to an application for safety zones for Offshore Renewable Energy Installations (“OREI”) under Section 95 of the Energy Act 2004, the scope of the works for which the DCO is being sought and the approach that will be taken by the Applicant to an application for safety zones (“the Safety Zone Application”).
6. The Safety Zone Application would provide all of the information required by Regulation 3 of the Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007 (“the 2007 Regulations”). In accordance with Section 95 of the Energy Act 2004, the Safety Zone Application will be made to the Secretary of State for Business, Energy and Industrial Strategy (“BEIS”).
7. The Safety Zone Application will be made once the final number and precise location of the OREI has been determined. It is currently anticipated that the

earliest date the Safety Zone Application would be submitted is in 2024, with offshore construction of the Project beginning in 2025.

8. The Safety Zone Application will be for standard rolling safety zones of 500 metres around each OREI for the period of construction of that OREI and during major maintenance activities¹ in respect of that OREI in order to ensure the safety of the windfarm infrastructure, individuals working thereon, construction vessels and other vessels navigating in the area whilst works take place.
9. The Safety Zone Application may also request a 50 metre safety zone around each of the OREI within the Project area during the construction phase where no construction works are taking place on that OREI (i.e. where an OREI is incomplete or is in the process of being tested before commissioning).
10. Whilst no formal application for a safety zone around cable laying operations is possible under Section 95 of the Energy Act 2004, it is the Applicant's intention to propose rolling advisory safety zones of up to 500 metres around vessels installing export cables, platform link cables and inter-array cables in the interests of the safety of all users of the sea, and to provide clearance of 500 metres from laid cables until burial is confirmed in case of interaction with anchors or fishing gear.
11. The Applicant does not intend to apply for safety zones during the operational phase of the Project (except for major maintenance activities as discussed above).
12. This Safety Zone Statement does not consider in detail the safety zone requirements relating to the decommissioning phase of the Project. If, following consultation with the relevant stakeholders (including the Maritime and Coastguard Agency ("MCA")), a safety zone is required for the decommissioning of the Project, a further safety zone application would be made at the relevant time.

¹ "Major maintenance" is defined in the 2007 Regulations as "works relating to any renewable energy installation which has become operational, requiring the attachment to, or anchoring next to, such an installation of a self-elevating platform, jack-up barge, crane barge or other maintenance vessel."

2 Introduction

13. This Safety Zone Statement is submitted by the Applicant pursuant to Regulation 6(1)(b)(ii) of the APFP Regulations. It describes the Applicant's proposed approach to applying for safety zones for the Project.
14. The OREI in respect of which safety zones will be applied for will be located in the East Anglia TWO windfarm site, which is located approximately 37.3km from Lowestoft and 32.6km from Southwold and covering an area of approximately 218.4km².
15. The OREI for the Project will comprise:
 - Up to 75 offshore wind turbines;
 - Up to four offshore electrical platforms;
 - Up to one offshore construction, operation and maintenance platform;
 - Up to one met mast.
16. A more detailed description of the works that may be included within the Safety Zone Application has been provided at Section 4 of this Statement.
17. Further information on the location, project components and design of the Project is provided in the accompanying Environmental Statement (Document reference 6.1) and in particular in Chapter 6 Project Description (Document reference 6.1.6).

Legislative context

18. The process for applying to the Secretary of State for a safety zone to be established around an OREI is set out in Section 95 and Schedule 16 of the Energy Act 2004. The provisions apply to territorial waters in or adjacent to England, Scotland and Wales and to waters in the UK Renewable Energy Zone.
19. The 2007 Regulations make further provision regarding the process for applying for a safety zone and advertising such applications. Guidance² has also been published to assist applicants in the process of making an application for safety zones.
20. The categories of OREI in respect of which a safety zone application can be made are specified in section 104 of the Energy Act 2004 and summarised in the Guidance. The Guidance identifies OREI within the scope of the scheme as those which:

² Applications for safety zones around offshore renewable energy installations; Published by Department of Energy And Climate Change, November 2011 (Revised).

- are used (or will be used or, in the case of decommissioning, have been used) for purposes connected with the production of energy from water or winds;
 - permanently rest on, or are permanently attached to, the bed of the waters; and
 - are not connected with dry land by a permanent structure providing access at all times for all purposes.
21. The safety zone provisions do not apply to export cables, inter- array cables, platform link cables or parts thereof, located outside an approved safety zone. As noted above however, it is the Applicant's intention to propose rolling advisory safety zones in respect of cable installation activities.

Objectives

22. In satisfying the requirements of Regulation 6(1)(b)(ii) of the APFP Regulations, this Safety Zone Statement sets out the Applicant's current intentions relating to the requirements for safety zones at the Project during the different phases of the Project and correspondingly the basis of an application that will be made under the provisions of the Energy Act 2004 and the 2007 Regulations.
23. This Statement addresses the following:
- Need for safety zones for the Project; and
 - Scope of the proposed Safety Zone Application.

3 The need for safety zones for the Project

24. The Applicant's intention is to make an application for safety zones around the OREI in the event that consent is granted for the Project in order to ensure the safety of the windfarm infrastructure, individuals working thereon, construction vessels and other vessels navigating in the area whilst works take place.
25. The current, anticipated need for safety zones at the Project site for some or all phases of development is set out in the Environmental Statement in Chapter 14 Shipping and Navigation (Document reference 6.1.14) and the detailed Navigation Risk Assessment ("NRA") in Appendix 14.2 (Document reference 6.3.14.2) accompanying the application for a DCO. The use of safety zones during construction, major maintenance activities and decommissioning is considered to be embedded mitigation within these documents.
26. For the construction phase, 500 metre safety zones around construction activities are considered necessary. During the construction phase a 50 metre safety zone may also be necessary around OREI where construction works are not taking place (i.e. around OREI which are incomplete or which are complete but awaiting commissioning).
27. For the operational phase, the NRA does not currently foresee any specific need for safety zones to be established around the OREI with the exception of during major maintenance activities.
28. With regard to the decommissioning phase of the Project, as noted above, it is anticipated that an application for safety zones would not include any specific provisions for the decommissioning phase. Rather it is expected that the need for safety zones at that stage would be subject to appropriate risk assessment and consultation with the statutory authorities. A separate application would be made prior to decommissioning where necessary.
29. The 2007 Regulations and the accompanying Guidance set out what are considered to be standard dimensions for safety zones and this includes 500 metres during construction and major maintenance works.
30. It is noted that the anticipated provisions for safety zones for the Project align with the standard definitions set out in the 2007 Regulations.
31. In summary, the Applicant anticipates that an application for safety zones would be made to BEIS incorporating some or all of the following provisions:
 - Construction phase – 500 metres safety zones around active construction works;

- Construction phase – 50 metres safety zones around partially or fully completed structures prior to windfarm commissioning;
 - Operational phase – a 500 metres safety zone around the site of major or exceptional maintenance works; and
 - Decommissioning – none at present; a separate application would be made prior to decommissioning where considered necessary.
32. The final scope and form of the Safety Zone Application will be decided following completion of the detailed design of the Project but prior to the start of construction works. The final Safety Zone Application will be developed through further risk assessment and in consultation with relevant statutory authorities, and in line with the 2007 Regulations and accompanying Guidance.

4 Scope of the Safety Zone Application for the Project

Scope of the DCO application

33. The application for the Project seeks consent for the following offshore works, as set out in Schedule 1 Part 1 of the draft DCO (Document reference 3.1) and repeated in the following paragraphs.

Work No. 1

- (a) an offshore wind turbine generating station with a gross electrical output capacity of over 100 MW comprising up to 75 wind turbine generators each fixed to the seabed by one of five foundation types (namely monopile, jacket on suction caissons, jacket on piles, suction caisson or gravity base), fitted with rotating blades and situated within the area shown on the works plan and further comprising (b) and (c) below;
- (b) up to one meteorological mast fixed to the seabed within the area shown on the works plan by one of five foundation types (namely monopile, jacket on suction caissons, jacket on piles, suction caisson or gravity base); and
- (c) a network of subsea inter-array cables within the area shown on the works plan between the wind turbine generators and between the wind turbine generators and Work No. 3 including one or more cable crossings.

and associated development within the meaning of section 115(2) of the 2008 Act comprising—

Work No. 2 — up to one construction, operation and maintenance platform fixed to the seabed within the area shown on the works plan by one of three foundation types (namely jacket on suction caissons, jacket on piles or gravity base);

Work No. 3 — up to four offshore electrical platforms fixed to the seabed within the area shown on the works plan by one of three foundation types (namely jacket on suction caissons, jacket on piles or gravity base);

Work No. 4 — a network of subsea platform link cables within the area shown on the works plan between the offshore electrical platforms comprising Work No. 3 and between the construction, operation and maintenance platform comprising Work No. 2 and the offshore electrical platforms comprising Work No. 3 for the transmission of electricity and electronic communications including one or more cable crossings;

Work No. 5 — up to two subsea export cables between Work No. 3 and Work No. 6 within the area shown on the works plan including one or more cable crossings;

Work No. 6 — landfall connection works consisting of up to two export cables and up to two separate fibre optic cables and cable ducts laid underground between Work No. 5 and Work No. 8 (onshore transmission works at the landfall) within the area shown on the works plan, to the extent that the works are seaward of MHWS;

and in connection with Work Nos. 1 to 6 and to the extent that they do not otherwise form part of any such work, further associated development comprising such other works as may be necessary or expedient for the purposes of or in connection with the relevant part of the authorised project and which fall within the scope of the work assessed by the environmental statement including—

- (a) scour protection around the foundations of the offshore structures;
- (b) cable protection measures such as rock placement and the placement of concrete mattresses and frond mattresses;
- (c) dredging; and
- (d) the removal of material from the seabed required for the construction of Work Nos. 1 to 6 and the disposal of inert material of natural origin and/or dredged material within the Order limits produced during construction drilling and seabed preparation for the installation of the foundations of the offshore structures or during seabed preparation for cable laying.

Scope of the Safety Zone Application

34. A formal Safety Zone Application is normally expected to be made following award of the main development consent (in this case the granting of the DCO by the Secretary of State). The Guidance notes that, following award of consent, a developer will normally have taken decisions on a range of important technical issues such as foundation type and the locations of the installations which will make up an array, thereby ensuring that decisions about safety zones, and particularly how a safety zone notice should be drawn up, can be taken on the basis of firm and up to date information. The application is to be made to BEIS with notice of application served on the Navigation Safety Branch of the MCA.
35. In the case of the Project, the Safety Zone Application would be made following completion of the detailed design work but prior to the start of the construction works. The earliest date an application would be submitted

would be in 2024, subject to progression of the design and procurement process.

36. In relation to the information requirements of an application, Schedule 16 of the Energy Act 2004 and Regulation 3 of the 2007 Regulations sets out what should be included within a written application for safety zones in respect of an offshore generating station. The requirements include:

- A map showing:
 - (i) the place where the relevant renewable energy installation is to be, or is being, constructed, extended, operated or decommissioned; and
 - (ii) the waters in relation to which any declaration applied for will establish a safety zone;
- A description of the installation and its proposed or existing location and dimensions (including an explanation of how much of it is (or is expected to be) visible above the water line and how much below it), supported by drawings;
- A description of how the installation operates (or is to operate);
- A description of the location (or proposed location) of:
 - (i) any electric line used (or proposed to be used) for the conveyance of electricity to or from the installation;
 - (ii) any connection to such an electric line;
- A description of the location (or proposed location) of any offshore substation housing connection equipment;
- Where the zone is sought in respect of more than one relevant renewable energy installation, the proposed or existing distance between such installations;
- Details of any navigational marking that has been specified for use with an installation of the description in question by a general lighthouse authority;
- Whether the zone relates to the construction, extension, operation or decommissioning of the relevant renewable energy installation;
- Whether the applicant seeks the declaration of a standard safety zone, or if not, what dimensions are sought for the zone;

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- A description of those works or operations in respect of which the zone is being applied for and their estimated date and duration;
 - Whether the applicant proposes that the area of the zone will vary and any factors or determinations by reference to which the applicant proposes that such variation may take place;
 - Whether the zone relates to major maintenance works in respect of a relevant renewable energy installation which has become operational;
 - A statement setting out what steps, if any, the applicant proposes to take to monitor vessels and activities within the zone;
 - Except where the Secretary of State has notified the applicant that it is not required, an up to date shipping traffic survey for the waters comprising the zone; and
 - An assessment of the extent to which navigation might be possible or should be restricted, and whether restrictions would cause navigational problems, within or near waters where the relevant renewable energy installation is to be, or is being, constructed, extended, operated or decommissioned, as the case may be.
37. The Safety Zone Application for the Project will contain the information required by Regulation 3 of the 2007 Regulations as set out above. As set out in section 3 of this Statement, a Safety Zone Application will be made for the standard safety zones comprising the following:
- A 500 metre radius around individual OREI and their foundations whilst work is being performed as indicated by the presence of construction vessels;
 - A 500 metre radius around all major maintenance works being undertaken around the wind turbines and their foundations, and
 - A 50 metre radius around individual OREI and associated foundation structures during the construction phase where construction works are not taking place (i.e. around OREI which are incomplete or which are complete but awaiting commissioning).
38. The 2007 Regulations also require an application to be publicised by notice in a prescribed manner and copies of the notice must be sent to the harbour masters of ports whose users are, in the opinion of the applicant, likely to be affected by the application; to the MCA HQ plus the Maritime Rescue Co-ordination Centre responsible for operations in the waters in which the safety

zone is proposed or located; and to the local office of the Marine Management Organisation which is responsible for operations in the waters in which the safety zone is proposed or located.

39. In addition, the Guidance advises that applicants undertake early consultation with “interested parties” on their intention to make an application for safety zones. BEIS will consult with a range of organisations upon receipt of an application.
40. The Applicant will take note of the prescribed publicity and notification requirements in preparing the Safety Zone Application. The Applicant has already undertaken early consultation in preparing the current application for a DCO, consulting with shipping operators, fishermen and recreational interest groups as well as statutory agencies such as the MCA. Once the final design details of the Project are available, the Applicant will conduct further consultation with regard to safety zones, prior to making an application to BEIS.