



SCOTTISHPOWER  
RENEWABLES

# East Anglia TWO Offshore Windfarm

## Best Practice Protocol for Minimising Disturbance to Red-Throated Diver

Applicants: East Anglia TWO Limited  
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Applicable to **East Anglia TWO**



#### Revision Summary

Rev	Date	Prepared by	Checked by	Approved by
01	15/12/2020	Paolo Pizzolla	Lesley Jamieson	Rich Morris
02	04/03/2021	Paolo Pizzolla	Lesley Jamieson	Rich Morris
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#### Description of Revisions

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01	n/a	n/a	Final for submission at Deadline 3
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# Table of Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>Vessel Disturbance Mitigation</b>	<b>4</b>
<b>3</b>	<b>Helicopter disturbance</b>	<b>6</b>



## Glossary of Acronyms

AEol	Adverse Effect on Integrity
DML	Deemed Marine Licence
MMO	Marine Management Organisation
NE	Natural England
nm	Nautical Mile
PEMP	Project Environmental Management Plan
SPA	Special protection Area



## Glossary of Terminology

Applicant	East Anglia TWO Limited
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.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Transmission DML	The deemed marine licence in respect of the transmission assets set out within Schedule 14 of the draft DCO.



# 1 Introduction

1. This document provides a best practice protocol to minimise disturbance to non-breeding red-throated diver which is a qualifying feature of the Outer Thames Estuary Special Protection Area (the “SPA”). A final best-practice protocol for minimising disturbance to red-throated divers during construction and operation will be adopted and will be provided as part of the project environmental management plan (PEMP) to be approved by the Marine Management Organisation (MMO) and secured under condition 17 of the Generation Deemed Marine Licence (DML) and condition 13 of the Transmission DML.
2. This document has been updated and submitted into the Examination at Deadline 7 to address the following comments from Natural England in their Deadline 4 submission (REP4-087) [and has also been updated at Deadline 8.](#)

Natural England comment	Location where addressed
How will it be demonstrated that planned works during construction and operation phases are avoiding the sensitive periods between November and March?	Addressed in <b>Section 2</b>
Where it is not possible to avoid works during the sensitive period how will vessel movements be managed to minimise disturbance to SPA features?	Addressed in <b>Section 2</b>
Provide details of particular works when vessels will be required to leave existing navigational routes through the SPA	Addressed in <b>Section 2</b>
Low flying helicopter flights over the SPA are also likely to cause disturbance. If the use of helicopters is likely then we advise that is also covered under a protocol for minimising disturbance	Addressed in <b>Section 3</b>



## 2 Vessel Disturbance Mitigation

3. At this stage, the construction and operation and maintenance ports have not been confirmed but are anticipated to include Great Yarmouth for construction and the existing ScottishPower Operations and Maintenance base at Lowestoft. To address the comments made by Natural England, the Applicant commissioned Anatec Limited to establish vessel transit routes from both ports to the windfarm site avoiding, as far as possible, the SPA with a buffer either side of the route of 2km to account for the range over which red-throated diver are known to flush from vessels in transit. The results of that exercise are shown in **Figure 1** where the anticipated 'direct routes' from each port to the windfarm site are shown in 'green' and the 'mitigation routes' in 'red'.
4. The main component of the SPA overlaps the approaches to both ports and therefore it is not possible to avoid transiting through this part of the SPA. However, the mitigation routes have been specifically created to follow the navigation approaches to both ports, and thus limit the impact of the Projects' vessel movements to areas of existing navigation routes associated with the ports, where the densities of red-throated diver are typically relatively low.
5. Once beyond the main components of the SPA, vessel traffic from either port has been routed through the gap between the main component and northern component of the SPA. This gap generally allows for a 4km width, with the exception at its narrowest where the gap is orientated northwest-southeast for a short section. At the point the gap is reduced to between 2.75 and 3.30 km, preventing a full 4km width. It should also be noted that alternative mitigation routes could also be used, but avoidance of the SPA beyond the approaches to the ports would be maintained.
6. All vessels associated with the Project will use an automatic identification system (AIS) which broadcasts the location of the vessel and is monitored by the Projects' Marine Co-ordination Centre. The final **Best Practice Protocol for minimising disturbance to Red-Throated Diver**, submitted post-consent, will include details of how the mitigation route (or any alternate mitigation routes) will be communicated, enforced and monitored.
7. The Applicant commits to implementing the measures outlined above and provided in **Figure 1** by all project vessels throughout the construction and operation of the Project through the core winter period of 1<sup>st</sup> November to 1<sup>st</sup> March inclusive.
8. The situations where these measures would not apply are:



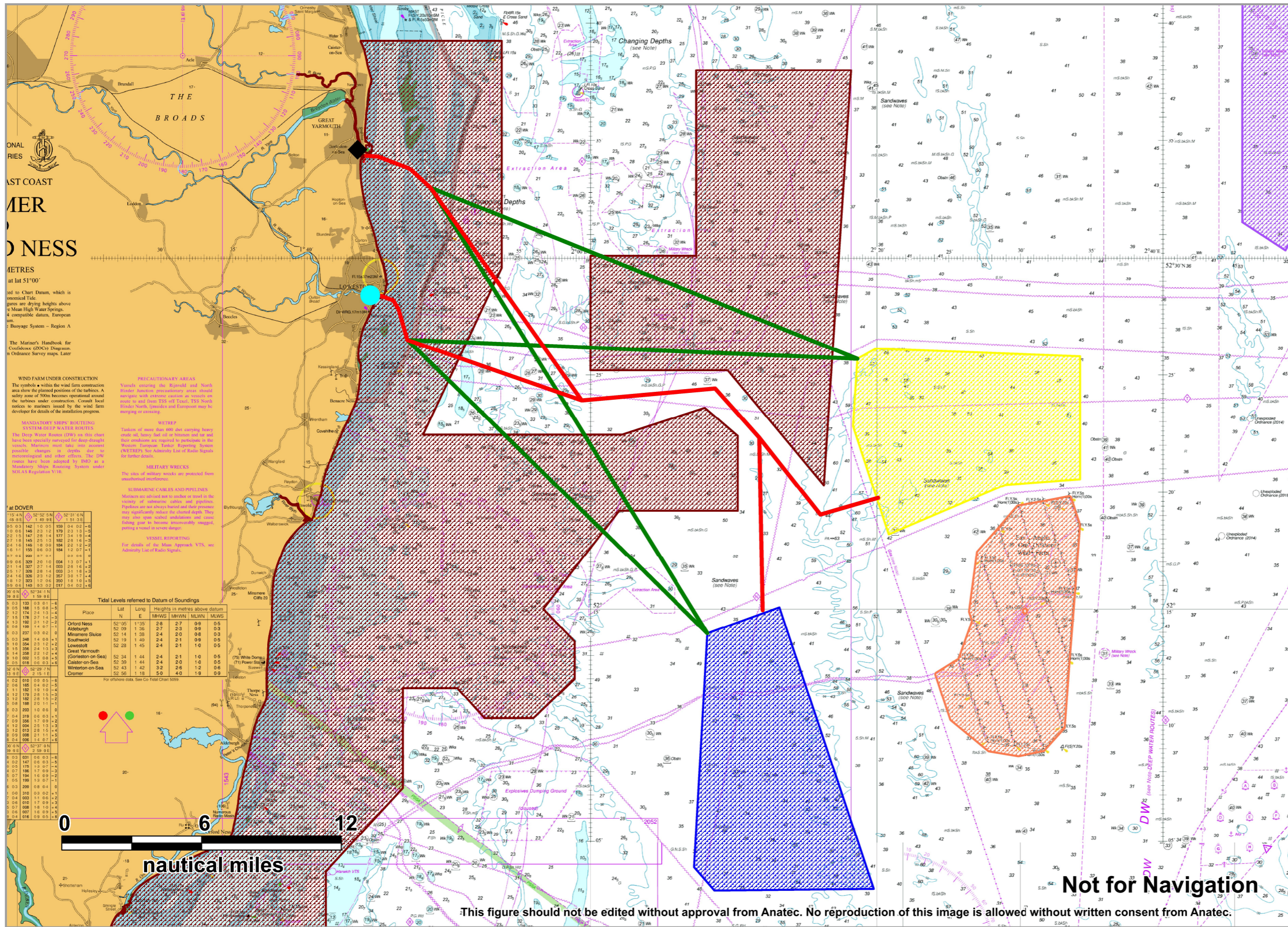
- Installation and maintenance of the export cables, which pass through the SPA; and
  - Emergencies and reasons of health and safety, for example, due to inclement weather where the most direct route back to port is required.
9. Such instances would be recorded as part of the monitoring process.
10. Additionally , where relevant, some or all of the following best practice examples will be included in the PEMP in agreement with the MMO and NE and would still apply to some of the instances outlined above:
- Avoid and minimise vessel traffic, where possible, during the most sensitive time period for red-throated diver between November and March 1st inclusive.
  - Restrict vessel movements where possible to existing navigation routes (where the densities of divers are typically relatively low).
  - Where it is necessary to go outside of established navigational routes, avoid rafting birds either en-route to the windfarm sites from port and/or within the windfarm sites (dependent on location) and where possible avoid disturbance to areas with consistently high diver density.
  - Avoid over-revving of engines (to minimise noise disturbance).
  - Briefing of vessel crew on the purpose and implications of these vessel management practices (through, for example, tool-box talks).
11. Should either the final construction and, or operation and maintenance port differ from Great Yarmouth and Lowestoft, the Applicant will update this document within the Project Environmental Management Plan prior to commencement of construction with the location of the new port(s) and undertake vessel transit routing from the new port(s), if required, to the windfarm site avoiding as far as possible the SPA with a buffer either side of the route of 2km between November and March 1st inclusive. Inclusion of this document within the Project Environmental Management Plan is secured under Condition 17(1)(e)(vi) of Schedule 13 and 13(1)(e)(vi) of Schedule 14.





## 3 Helicopter disturbance

~~11.~~12. If used, helicopters are a potential source of disturbance to red throated diver in the Outer Thames estuary SPA. The minimum safe altitude for helicopters operating offshore is 1000 feet above the highest known obstacle within 5nm, which the Applicant commits to adhering to. It is considered that at these altitudes that any disturbance caused by the visual presence or noise of helicopters will be minimal and will not result in significant disturbance of red-throated diver.



**Port**

- ◆ Great Yarmouth
- Lowestoft

**Route Legend**

- Direct
- Mitigation

**Legend**

- Outer Thames Estuary SPA
- EA1 Windfarm Site
- EA1N Windfarm Site
- EA2 Windfarm Site
- EA3 Windfarm Site

**PROJECT NAME**  
East Anglia ONE North and East Anglia TWO

**FIGURE TITLE**  
Outer Thames Estuary SPA Routing  
- EA1N and EA2

**REVISION:** REV 01

**DATE:** 04/03/2021



**CO-ORDINATE SYSTEM**  
Mercator WGS84

**DRAWN:** JC

**CHECKED:** SW

**Not for Navigation**

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**WIND FARM UNDER CONSTRUCTION**  
The symbols within the wind farm construction area show the planned positions of the turbines. A safety zone of 500m becomes operational around the turbines under construction. Councils lead notices to mariners issued by the wind farm developer for details of the installation process.

**PRECAUTIONARY AREAS**  
Vessels crossing the River and North River, Angles, respectively, must observe navigational aids and other notices to mariners issued by the wind farm developer. Under North, Angles and East Anglia may be engaged or engaged.

**MANDATORY SHIP ROUTING**  
The Deep Water Routes (DWR) on this chart have been specially surveyed for deep draft vessels. Minimum draft is indicated. Vessels must take into account possible changes in draft due to meteorological and other effects. The DWR routes have been advised by IMO as a Mandatory Ship Routing System under SOLAS Regulation 10.

**NETS**  
Tanks of some size may carry heavy loads of nets that are in use and their condition is required to participate in the Marine Group Netting Scheme (MGN) for the Admiralty List of Radio Signals for various reasons.

**MILITARY WRECK**  
The sites of military wrecks are protected from unauthorised interference.

**SWIMMING CABLES AND PIPELINES**  
Markings are advised not to anchor or dredge in the vicinity of submarine cables and pipelines. Protection is always advised and their presence may significantly reduce the cleared depth. They may also have other implications and cause fishing gear to become entangled, leading to a vessel's capture.

**SPONSOR INFORMATION**  
For details of the Atlas Approach VTS, see Admiralty List of Radio Signals.

**Tidal Levels referred to Datum of Soundings**

Place	Lat	Long	Heights in metres above datum			
			MHW	MWN	MLWN	MLWS
Orford Ness	52°05'	1°35'	2.6	2.7	0.9	0.5
Alburgh	52°09'	1°32'	2.3	2.3	0.9	0.3
Messing Sluice	52°14'	1°35'	2.4	2.0	0.8	0.3
Southwold	52°19'	1°40'	2.4	2.1	0.9	0.5
Lowestoft	52°28'	1°43'	2.4	2.1	1.0	0.5
Great Yarmouth (Coronation on Sea)	52°34'	1°44'	2.4	2.1	1.0	0.5
Caister-on-Sea	52°35'	1°44'	2.4	2.0	1.0	0.5
Winterton-on-Sea	52°43'	1°42'	3.2	2.6	1.2	0.6
Ormer	52°50'	1°45'	4.0	1.9	0.9	