

East Anglia THREE
Offshore Windfarm

East Anglia THREE

Revised CRM for East Anglia ONE
theoretical maximum build out case of 150
turbines

Document Reference – Deadline 6 / CRM
150 turbines / The Applicant



**SCOTTISHPOWER
RENEWABLES**

1 Introduction

This note provides clarification on the in-combination and cumulative collision risk for birds for East Anglia THREE taking into account the reduction in capacity of East Anglia ONE (from the originally consented 240 turbine case to the 150 turbine maximum case confirmed by a Change Order in 2016) and the commitment by East Anglia THREE LTD to increase the turbine draught height (mean high water springs to lower tip height) of 70% of the East Anglia THREE turbines by 2m i.e. from 22m to 24m. The upper maximum tip height of 247m will remain unchanged. This report replicates the work shown in the Revised CRM document submitted at Deadline 5 (REP5-026), but substitutes a 150 turbines case for the 102 turbine case previously presented.

It should be noted that the CRM numbers for a 150 turbine case is being presented in response to concerns regarding the legal certainty around the assurances (see below) given by East Anglia ONE LTD that the East Anglia ONE windfarm will be constructed using no more than 102 turbines, in summary:

- East Anglia ONE LTD wrote to the Secretary of State on 16th September 2016 and confirmed that the project would consist of no more than 102 x 7MW turbines
- The East Anglia ONE project has a contract for difference that supports no more than 714MW in capacity
- East Anglia ONE LTD has placed a contract with Siemens for 102 x 7MW turbines

2 Updated CRM

The following question was raised by the Examining Authority in its Rule 17 letter of 28th October 2016:

Number of Turbines in East Anglia ONE when built. The issue was discussed at the second Environmental Issue Specific Hearing (ISH) and the third Development Consent Order (DCO) ISH regarding the proposal that East Anglia ONE Ltd (EA1) will only build out its consent to 102 turbines. This has not been secured. The East Anglia ONE Offshore Wind Farm Order 2016 (as amended) (EA1 DCO) can still be fully implemented and up to 150 turbines can be constructed with the HVAC option. The ExA needs to take this into consideration in its recommendations and therefore seeks further information as set out below.

Requests to the Applicant: The revised Collision Risk Modelling (CRM) submitted at Deadline 5 [REP5-026] includes at Appendix 3 the monthly and annual collision mortality for five species assessed for EA1 using Band Option 1. The main body of the revised CRM presents the cumulative and in-combination modelling results using 102 turbines and the amended design for East Anglia THREE (EA3). To ensure the ExA has sight of a full assessment for the 150 turbine scenario, the Applicant is requested to provide a CRM note detailing the cumulative consented totals for the five species, for EIA purposes, and the in-combination totals for HRA purposes, using the 150 turbine data provided in Appendix 3 and the updated design for EA3.

The following Tables (1 to 3) reproduce Tables 7, 8 and 9 from the Revised CRM (REP5-026) replacing the updated 102 turbine design for East Anglia ONE with the 150 turbine case using the revised collision risk estimates shown in Appendix 3 of that document. For gannet and lesser black-backed gull, the cumulative totals are below the consented levels, with the other species totals less than 2% above the consented totals for the EIA (note that for the intended 102 design all totals were at or below the consented levels). For the Flamborough and Filey Coast (FFC) pSPA the new in-combination totals represent an increase of 3.3 and 1.2 birds for gannet and kittiwake respectively. These tables demonstrate that even with the 150 turbine case the East Anglia THREE contribution to the cumulative and in-combination totals remains non-material.

In their response to the Rule 17 questions the RSPB has stated the following:

“As the proposal to reduce the number of turbines to be constructed under the EA1 DCO to 102 has not been legally secured, the ExA must consider this application on the basis that up to 150 turbines can be constructed

under the EA1 DCO. Please can NE and RSPB give their views on the basis of 150 turbines being used for assessment purposes?

Whilst the proposal to build 102 turbines would make a lower contribution to cumulative/incombination collision risk, given the additional changes to turbine height for EA3, we accept that the 150 turbine scenario does not result in a significantly higher contribution. We understand that the 102 turbine scenario cannot be legally secured at this time, but acknowledge that the Applicant has clearly stated their intention to build to this lower level. However, should the worst case scenario of 150 turbines be realised, we do not consider that this would materially change the conclusions regarding potential impacts from collisions. As stated in our previous response at Deadline V [REP5- 005], the changes to the specifications for both windfarms have reduced our concerns regarding Cumulative / in-combination collision risk at this stage.

Are there any implications for Environmental Impact Assessment (EIA) or Habitats Regulations Assessment (HRA) conclusions?

In light of the reduction from the original 240 turbines for EA1 and the changes to the turbine heights for EA3, we do not consider that there are implications for EIA or HRA conclusions.

What are NE's and RSPB's views in respect of conclusions on adverse effects on the integrity of the Flamborough and Filey Coast pSPA/Flamborough Head and Bempton Cliffs SPA?

As above, we do not consider that the difference in potential collision risk between the two scenarios would affect conclusions."

Table 1: Annual seabird collision mortality at East Anglia ONE and East Anglia THREE using Band Option 1. Mortality calculated for the updated East Anglia ONE wind farm design (reduced turbines) with the estimates for the consented design included for comparison. Mortality calculated for the revised East Anglia THREE wind farm (increase in draught height for 70% of turbines) with estimates submitted in the ES included for comparison. Model parameters provided in Tables 2, 3, and 4 of REP5-026.

Species	East Anglia ONE			East Anglia THREE	
	Consented (240 turbines)	Change Order (150 turbines)	Reduction	100% turbines at 22m Draught height	30% turbines at 22m, 70% turbines at 24m Draught height
Gannet	213	141	-72	56	49
Kittiwake	314	209	-105	146	112
LBB gull	61	40	-21	10	9
GBB gull	71	46	-25	42	39
Herring gull	41	28	-13	26	24

Table 2: Comparison of the cumulative collision risk for consented projects (up to and including Hornsea Project 2) with the consented mortality for East Anglia ONE, the updated mortality for East Anglia ONE and the updated cumulative total including the revised East Anglia THREE estimates.

Species	Cumulative consented total up to Hornsea Project 2		Revised East Anglia THREE estimates (30:70 draught heights)	Updated cumulative total including 150 East Anglia ONE and revised East Anglia THREE estimates
	With consented East Anglia ONE estimates	With updated East Anglia ONE estimates (150 turbines)		
Gannet	2942	2870	49	2919
Kittiwake	3507	3402	112	3514
LBB gull	499	478	9	487
GBB gull	840	815	39	854
Herring gull	701	688	24	712

Table 3: Comparison of the in-combination collision risk for the Flamborough and Filey Coast (FFC) pSPA populations of gannet and kittiwake for consented projects (up to and including Hornsea Project 2) with the consented mortality for East Anglia ONE, the updated mortality for East Anglia ONE (based on 150 turbines) and the updated in-combination total up to and including the revised East Anglia THREE estimates. East Anglia THREE mortalities at FFC pSPA have been updated for the increase in draught height.

Species	In-combination consented total up to Hornsea Project 2			In combination total up to and including revised East Anglia THREE estimates (with 150 East Anglia ONE)
	With consented East Anglia ONE	With 102 East Anglia ONE	With 150 East Anglia ONE	
Gannet	173	165.2	168.2	176.3
Kittiwake	322	311.6	315.4	323.2