



East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 10 Submissions

Applicant: East Anglia TWO and East Anglia ONE North Limited

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Applicable to East Anglia ONE North and East Anglia TWO





Revision Summary						
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Rev	Page	Section	Description		
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1 Introduction 1





Glossary of Acronyms

ACAP	Agreement on the Conservation of Albatrosses and Petrels
DCO	Development Consent Order
DML	Deemed Marine Licence
ExA	Examining Authority
HDD	Horizontal Directional Drilling
RSPB	Royal Society for the Protection of Birds
SoCG	Statement of Common Ground
SPA	Special Protected Area
SPR	ScottishPower Renewables
UK	United Kingdom





Glossary of Terminology

Applicant	East Anglia ONE North Limited / East Anglia TWO 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.
East Anglia ONE North / East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
HDD temporary working area	Temporary compounds which will contain laydown, storage and work areas for HDD drilling works.
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 meteorological 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.
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 ONE North / 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.
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.
Transmission DML	The deemed marine licence in respect of the transmission assets set out within Schedule 14 of the draft DCO.

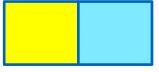




1 Introduction

- This document is applicable to both the East Anglia ONE North and East Anglia TWO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's (ExA) procedural decisions on document management of 23rd December 2019. Whilst for completeness of the record this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it again for the other project.
- 2. This document presents the Applicants' comments on the Royal Society for the Protection of Birds' (RSPB) Deadline 10 submission (REP10-054).





Point	RSPB Comment	Comment Applicants' Response		
1 Intro	duction			
1	1.1 This representation applies jointly to the development consent order (the DCO) applications by Scottish Power Renewables (the Applicants) for the East Anglia ONE North (EA1N) and East Anglia TWO (EA2) offshore windfarms (collectively "the applications").	Noted		
	1.2 This submission is the RSPB's combined response to the Applicants' Deadline 9 submissions for each scheme entitled "Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 8 Submissions" (both numbered REP9-020).			
2	·	Noted. The Applicants have responded to the RSPB submissions as follows:		
		RSPB Submission	Applicants' Response	
		REP4-097	REP5-016	
		REP8-171	REP9-020	
		REP9-071	REP10-018	
2 Res	sponse to Applicants' REP9-020			
3	Introduction	l . ''	onses to the RSPB's comments w	ithin <i>Table</i>
	2.1 In <i>Table 1</i> below we set out the RSPB's response to the Applicants' comments (REP9-020) on the RSPB's Deadline 8 submission.	1 .		



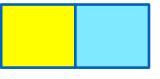
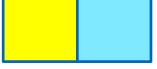


Table 1 The Applicants' Response to the RSPB's response to the Applicants' comments on the RSPB's Deadline 8 submission set out in REP9-020.

Reference	Text	RSPB comments	Applicants' Response
Main table			
Point 6	The Applicants updated the Offshore Ornithology Without Prejudice Compensation Measures document at Deadline 8 (REP8-090) to include more detail following meetings with Natural England and Defra.	The RSPB refers the Examining Authority to its comments on this general issue at Deadline 9 (REP9-071).	See the <i>Applicants' Comments on RSPB's Deadline 9 Submissions</i> (REP10-018).
Point 6	It is important to stress that the Applicants consider the without prejudice compensation measures being proposed can all be delivered, if required, and that the nature of the RSPB's concern is merely in relation to the level of detail currently presented, which has been expanded upon in the updated document submitted at Deadline 8.	The RSPB refers the Examining Authority to its previous responses including Deadline 9 (REP9- 071).	See the <i>Applicants' Comments on RSPB's Deadline 9 Submissions</i> (REP10-018).
Point 7	The Applicants consider that the wording of Schedule 18 of the DCO is sufficiently flexible and allows for strategic or collaborative working	The RSPB has noted the Applicants' comment but remains of the view that there remains a lack of detail on how such strategic or collaborative working on compensation measures with other developers	Where a strategic or collaborative approach is proposed, this will be detailed within the relevant implementation plan which must be submitted to and approved by the Secretary of State in accordance with the relevant part of Schedule 18. The implementation plan for each species must be based on the compensation plan within the relevant appendix of the <i>Offshore Ornithology Without Prejudice Compensation Measures</i> document (document reference ExA.AS-28.D11.V3) and reference to the potential for collaborative or





Reference	Text	RSPB comments	Applicants' Response
		would be made to work e.g. in legal and financial terms.	strategic approaches has been included within the relevant appendices where this is considered appropriate.
			The Applicants do not consider that any changes are required to Schedule 18 to refer to strategic or collaborative working as the wording of Schedule 18 is sufficiently flexible to enable this.
Points 12 (& 13a)	Point 12: The Applicants strongly disagree	The RSPB refers the Examining Authority to its previous	Responses to the RSPB's two different points (copied in italics) are provided in turn below:
	that 'the ability to create successful artificial nesting structures for kittiwakes with a reasonable	comments on this measure. The evidence for successful, consistent and predictable establishment and growth of	"The evidence for successful, consistent and predictable establishment and growth of artificial nesting colonies for this species is equivocal"
	guarantee of success is unproven and would be experimental. It is well documented that kittiwakes nest on artificial structures, both purpose built and otherwise (e.g. bridges etc.). It is the case that productivity varies, but this fact means there is an ample evidence base on which to draw to ensure that new structures are designed that will have a high probability of being successful (i.e. lessons can be learned from comparison of existing colonies).	artificial nesting colonies for this species is equivocal and certainly not proven from the perspective of the deliberate provision of compensation measures with a "reasonable guarantee of success".	The evidence shows that kittiwakes have successfully established colonies at over 300 artificial sites, with many in the UK (for example over 20 on River Tyne alone) but also in Denmark, Norway, Iceland, Faroes, France, Canada and the United States. So, there is very strong and consistent evidence of establishment of kittiwakes on artificial structures. On average, kittiwakes tend to consistently and predictably achieve higher breeding success when nesting on artificial structures than they do at natural colonies within the same region, whether these artificial structures are warehouses, wrecked ships, radar towers, oil and gas platforms, bridges, churches, nuclear power station seawater pipes, piers, harbour walls, or ruined castles (Coulson 2011). The RSPB's statement is incorrect. The scientific evidence is not equivocal. It is highly consistent across studies, geographical regions and decades. For example, Coulson (2011) reviews this evidence for a 50-year study period in the UK. Reiertsen et al. (2019)





Reference	Text	RSPB comments	Applicants' Response
			report this result for colonies in Norway. In a recent study, restricted to just two consecutive breeding seasons but at large numbers of nests in colonies of different type, Christensen-Dalsgaard et al. (2019) concluded that kittiwakes breeding on six oil rigs in the Norwegian and Barents Seas had consistently higher breeding success across their study years (0.88 chicks/nest, n=891) than kittiwakes in colonies on man-made structures on the coast in the same period (0.69 chicks/nest, n=3610), and that both groups nesting on artificial structures had much higher success than kittiwakes breeding in natural habitats in the same area (0.32 chicks/nest, n=3857). Similarly, Turner (2010) showed from ten years of monitoring data that breeding success of kittiwakes on artificial sites on the River Tyne averaged higher than at most nearby natural colonies despite some persecution of birds at some River Tyne artificial sites and attempts to move nesting birds off some structures (25% higher than at Bempton, 35% higher than at Saltburn, 12% higher than at Tynemouth, 32% higher than at Farne Islands, but slightly lower than at Coquet Island RSPB reserve where the kittiwakes are protected by RSPB wardens). The tendency for breeding success of kittiwakes at artificial sites at River Tyne to be high, despite some continued persecution at some artificial sites, has continued in subsequent years (e.g. Turner 2015, 2016, 2017, 2018, 2019). The same has been shown at other colonies on artificial structures in the UK, such as Dunbar Harbour (breeding success from 1991 to 2007 was between 1.0 and 1.7 chicks per pair, higher in every single year than at the nearby natural colony of Isle of May (Coleman et al. 2011, JNCC 2021)), and Lowestoft (breeding success from 2010 to 2017 averaged 1.08





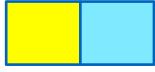
Reference	Text	RSPB comments	Applicants' Response
			+/- 0.18 chicks per pair, consistently about 20-40% higher than at Flamborough and Filey Coast SPA in the same years (JNCC 2021)), and this pattern of higher productivity from artificial compared to natural kittiwake colonies has also been shown in North America (e.g. Schultner et al. 2013 cf Jodice et al. 2006 and McKnight et al. 2020).
			The research shows that kittiwake breeding success is higher on some artificial structures than on others, and therefore raises the important point that artificial colonies created as compensation require careful design to optimise the suitability of the nest sites for breeding kittiwakes. There have been very few attempts to provide artificial structures for kittiwakes that the birds have chosen not to colonise, or have abandoned as unsuitable after attempting to use the site. There is an important lesson from those unsuccessful sites that indicates the need to assess the quality of the structure, and not to assume that any kind of tower or artificial ledge will suffice. Despite some artificial sites being of poor quality, and the attempts to deter kittiwakes from using some artificial sites, the overall tendency for kittiwake breeding success to be higher on artificial sites than at natural sites remains true, and a well-designed artificial site can therefore provide a high degree of certainty that it can permit higher breeding success by kittiwakes than they could achieve at natural colonies, and indeed most likely higher breeding success than has been achieved on average over all artificial sites, given the
			persecution that has been experienced at some of those.





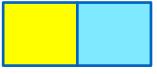
Reference	Text	RSPB comments	Applicants' Response
			"and certainly not proven from the perspective of the deliberate provision of compensation measures with a "reasonable guarantee of success"
			There have never been compensation measures for breeding kittiwake under the Birds Directive requirements, either in the UK or elsewhere, and so the RSPB are correct to say that such measures are not proven from the perspective of the deliberate provision of compensation measures. This, of course is bound to be the case when such measures have never been used before. However, the evidence is very strong, supported by peer reviewed scientific papers, that kittiwakes breed on many artificial structures, and on average achieve higher breeding success on such structures than they do at nearby natural colonies as discussed in response to the first point above. In the Applicants' view, therefore, notwithstanding the fact that the need for compensation is a novel experience in this context, the scientific evidence does provide a reasonable guarantee of success of artificial structures as an approach to achieve increased productivity of kittiwakes. However, not all artificial structures colonised by kittiwakes result in equally high breeding success, and so it is acknowledged that there is a need for careful design to optimise the nest site suitability for breeding kittiwakes, for example to minimise exposure to weather and predators, and to monitor efficacy of the new structures.





Reference	Text	RSPB comments	Applicants' Response		
	<u>References</u>				
	Christensen-Dalsgaard, S., Lang kittiwakes Rissa tridactyla? Seab		. Offshore oil rigs – a breeding refuge for Norv	vegian black-legged	
	Coleman, J.T., Coleman, A.E., Rickeard, A. and Anderson, R. 2011. Long-term monitoring of a colony of black-legged tridactyla in Scotland. Ringing & Migration 26: 9-14.				
	Coulson, J.C. 2011. The Kittiwak	e. T & AD Poyser, London.			
	JNCC 2021. https://jncc.gov.uk/n	ews/smp-database-launch/			
	Jodice, P.G.R., Roby, D.D., Turco, K.R., Suryan, R.M. et al. 2006. Assessing the nutritional stress hypothesis: relative influence quantity and quality on seabird productivity. Marine Ecology Progress Series 325: 267-279.				
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		•	er, E. and Eide, B. 2019. Urban kittiwakes – hu d=575.cb601dbd3eaa6495273b608176e1fd8a		
			ch, C. 2013. Differential reproductive response yal Society of London B 280: 20132090.	s to stress reveal the	
	· · · · · · · · · · · · · · · · · · ·	breeding success of black-legged k 994–2009. Seabird 23: 111–126.	ittiwake Rissa tridactyla nesting on made-mad	le structures along the	
	Turner, D.M. 2015. Summary of during 2010 – 2015. Natural Hist		tyla breeding data recorded on the River Tyne	, northeast England,	
	Turner, D.M. 2016. Summary of l during 2016. Natural History Soc		yla breeding data recorded on the River Tyne,	northeast England,	
	Turner, D.M. 2017. Summary of during 2017. Natural History Soc		yla breeding data recorded on the River Tyne,	northeast England,	





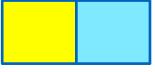
Reference	Text	RSPB comments	Applicants' Response
	Turner, D.M. 2018. Summary of black-legged kittiwake Rissa tridactyla breeding data recorded on the River Tyne, northeast England, during 2018. Natural History Society of Northumbria. Turner, D.M. 2019. Summary of black-legged kittiwake Rissa tridactyla breeding data recorded on the River Tyne, northeast England, during 2019. Natural History Society of Northumbria.		
Point 14	In addition, the Applicants have included a secondary compensation measure within Appendix 7 of REP8-090 to manage ornithological by-catch from fisheries from which gannet are known to be susceptible.	Please see the RSPB's detailed Deadline 9 comments on the applicant's bycatch proposals (REP9-071).	See the Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 9 Submissions (REP10-018).
Point 15	The Applicants have updated the Offshore Ornithology Without Prejudice Compensation Measures document at Deadline 8 (REP8-090) to include more detail following meetings with Natural England and Defra and have included additional detail as far as this is possible on the rat eradication measure including a shortlist of potential sites	Please see the RSPB's Deadline 9 comments (REP9- 071). We do not consider the additional information provided at Deadline 9 sufficient to demonstrate that the Applicants' have secured each compensation measure with a "reasonable guarantee of success".	The Applicants maintain their position that no further detail is required at this time.
Table 1	!	l	!





Reference	Text	RSPB comments	Applicants' Response
Targeted	The compensation measures proposed are all ecological in nature (e.g. reduced predation, improved productivity, reduced displacement) and have been selected on the basis of their ability to compensate for the predicted impacts and will last for the duration of the Projects (and in some cases beyond, e.g. rat eradication from islands).	The RSPB refers the Examining Authority to its previous comments on the various individual compensation measures proposed by the Applicants' in terms of their proven ecological applicability for the impacted species.	See Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 8 Submissions (REP9-020) and Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 9 Submissions (REP10-018).
Effective	Regarding timescales, the Applicants note that the EC guidance does not state that compensation measures are required to be implemented in perpetuity.	The RSPB notes that the Secretary of State required the Hornsea Three kittiwake compensation to be provided beyond the lifetime of the development (Schedule 14, Part 1, paragraph 7¹): "The artificial nest structures must not be decommissioned without written approval of the Secretary of State. The artificial nest structures shall be maintained beyond the operational lifetime of the authorised development if they are colonised, and routine and adaptive management measures and monitoring must	Section 5.4.3 in appendix 1 of the <i>Offshore Ornithology Without Prejudice Compensation Measures</i> updated at Deadline 11 (document reference ExA.AS-28.D11.V3) originally stated that: "The structure would remain in place, and maintained as fit for purpose until the windfarm has been decommissioned or a determination is made by the SoS on duration, following consultation with the relevant statutory nature conservation body, that compensation is no longer required. The artificial nest structure must not be decommissioned without written approval of the Secretary of State." The intention in the above statement was that the compensation measure would remain in place until the later of windfarm decommissioning or a determination by the Secretary of State on duration. To make this clear, the statement in the <i>Offshore Ornithology Without Prejudice</i>





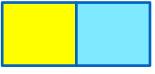
Reference	Text	RSPB comments	Applicants' Response
		continue whilst the artificial nesting structures are in place."	Compensation Measures submitted at Deadline 11 (ExA.AS-28.D11.V3) has been updated to include 'the later of'.
	the RSPB that limiting the compensation to the lifetime the development was inappropriate. The Secretary State specifically amended the	forward by Natural England and the RSPB that limiting the compensation to the lifetime of the development was inappropriate. The Secretary of State specifically amended the condition proposed by Hornsea	With regard to Schedule 18 of the draft DCO [REP8-002], paragraph 3 of Part 1 secures submission of a Kittiwake Implementation and Monitoring Plan to the Secretary of State for approval which must accord with the kittiwake compensation plan and its statement on duration of the compensation measure, whilst paragraph 7 secures that the artificial nest structure must not be decommissioned without written approval of the Secretary of State.
		Three.	The Applicant would therefore contend that it has taken a very similar approach to the Hornsea Project Three DCO and through the kittiwake implementation plan and the provisions in the DCO, has secured the duration of the compensation measure as being the later of windfarm decommissioning and a determination by the Secretary of State that the compensation measure is no longer required.
Extent	For clarity, all the proposed compensation measures are considered to have a high probability of success.	The RSPB refers the Examining Authority to its previous comments on the various individual compensation measures proposed by the Applicants' in terms of their proven ecological success for the impacted species.	See Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 8 Submissions (REP9-020).
Timing	The Applicants have taken account of the need for compensation to be fully functional in advance of	The RSPB refers the Examining Authority to its previous comments on the various	The Applicants maintain their position that no further detail is required at this time.





Reference	Text	RSPB comments	Applicants' Response
	predicted impacts occurring. It is important to stress that the suggestions of 'time lags' referred to by the RSPB would only be of a short duration (e.g. 1-2 years) and have only been included as an acknowledgement of the potential for unforeseen circumstances to introduce delays. The Applicants would endeavour to avoid such situations but have taken a pragmatic view on this matter.	individual compensation measures proposed by the Applicants' in terms of their proven ecological success for the impacted species. More detailed work is required to demonstrate the Applicants' point for each impacted species given each species' different breeding ecology, and the level of confidence associated with the proposed compensation measure for that species. For example, in respect of kittiwakes, the RSPB noted in the final paragraph of page 13 in REP4- 097: "Productivity rates and timescale to achieve and the required population levels: If colonisation occurs it would likely then take several years for a new structure to be fully occupied. If colonised by new recruits, it is also likely that productivity would be lower in the first few years after colonisation than in later years. Therefore, it could be many years before the projected	See Applicants' Comments on Royal Society for the Protection of Birds' Deadline 8 Submissions (REP9-020). See Applicants' Comments on Royal Society for the Protection of Birds (RSPB) Deadline 4 Submissions (REP5-016) for the Applicants' response to REP4-097. The Applicants reiterate that given the very small number of predicted mortalities for all of the species considered in the compensation measures document, the Applicants consider that while there is a risk of incurring a 'mortality debt', the size of debt for a delay remains extremely small and would readily be recouped within a year or two of measures becoming effective. Therefore, since the requirement for a long lead-in time is a lower concern for the Projects than, for example Hornsea Project Three, it follows that there is also less requirement for the current compensation schedule to contain detailed designs and site locations. Instead, these aspects can be addressed once a decision on the need to compensate for the Project has been made by the SoS.





Reference	Text	RSPB comments	Applicants' Response
		productivity could be achieved from any new structure"	For a discussion of the success of artificial habitat, see the response to points 12 and 13a above.
		This is a summarised version of detailed concerns set out in respect of the Hornsea Three kittiwake compensation proposals. For example, we refer the Examining Authority to paragraphs 2.13 to 2.22 of the RSPB's response to the Secretary of State's "minded to approve" consultation for the Hornsea Three project. These relate to the following:	
		 The size of the compensation population required; 	
		 The length of time the compensation is required; 	
		 The inherent uncertainty as to whether artificial nesting structures will succeed. 	