

**SCOTTISHPOWER
RENEWABLES**

East Anglia ONE North and East Anglia TWO Offshore Windfarms

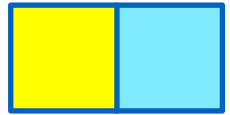
Submission of Oral Case

Issue Specific Hearing 7 on 17th February 2021: Biodiversity and Habitats Regulations Assessment

Applicants: East Anglia TWO Limited and East Anglia ONE North Limited
Document Reference: ExA.SN2.D6.V1
SPR Reference: EA1N_EA2-DWF-ENV-REP-IBR-001234

Date: 24th February 2021
Revision: Version 01
Author: Shepherd and Wedderburn LLP

Applicable to East Anglia ONE North and East Anglia TWO



Revision Summary				
Rev	Date	Prepared by	Checked by	Approved by
001	24/02/2021	Shepherd and Wedderburn LLP	Lesley Jamieson / Ian Mackay	Rich Morris

Description of Revisions			
Rev	Page	Section	Description
001	n/a	n/a	Final for Deadline 6 submission



Table of contents

1	Introduction	1
2	Agenda Item 2: Effects on Terrestrial Ecology	2
2.1	Hundred River	2
2.2	Other Terrestrial Ecology	5
3	Agenda Item 3: Effects on Marine Mammals	9
3.1	Harbour Porpoise of the Southern North Sea SAC	9
3.2	In-Principle Site Integrity Plans	9
4	Agenda Item 4: Effects on Fish and Shellfish Ecology	12
4.1	Outstanding Effects on Concern of Fish and Shellfish Ecology	12



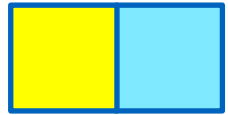
Glossary of Acronyms

AEOI	Adverse Effect on Integrity
DCO	Development Consent Order
DML	Deemed Marine Licence
EclA	Ecological Impact Assessment
EcoW	Ecological Clerk of Works
ESC	East Suffolk Council
ExA	Examining Authority
IPMP	In-Principle Monitoring Plan
IPSIP	In-Principle Site Integrity Plan
ISH	Issue Specific Hearing
JNCC	Joint Nature Conservation Committee
kW	Kilowatt
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
NE	Natural England
NOx	Nitrogen Oxides
OLEMS	Outline Landscape and Ecological Management Strategy
ROV	Remotely Operated Vehicle
PRF	Potential Roost Feature
PSA	Particle Size Analysis
SBIS	Suffolk Biodiversity Information Service
SCC	Suffolk County Council
SEAS	Suffolk Energy Action Solutions
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
SIP	Site Integrity Plan
SoCG	Statement of Common Ground
UXO	Unexploded Ordnance



Glossary of Terminology

Applicants	East Anglia ONE North Limited and 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.
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO project Development Consent Order but will be National Grid owned assets.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO / East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO project Development Consent Order.
Projects	The East Anglia ONE North project and the East Anglia TWO project.



1 Introduction

1. This document is applicable to both the East Anglia ONE North and East Anglia TWO Development Consent Order (DCO) applications (the 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 23 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.
2. The Issue Specific Hearing 7 for the Applications were run jointly and took place virtually on 17th February 2021 at 10:00am (Hearings).
3. The Hearings ran through the items listed in the agendas published by the ExA on 8th February 2021. The Applicants gave substantive oral submissions at the Hearings and these submissions are set out within this note.
4. Speaking on behalf of the Applicants were:
 - Mr Colin Innes, partner at Shepherd and Wedderburn LLP;
 - Miss Stephanie Mill, senior associate at Shepherd and Wedderburn LLP;
 - Mr Paolo Pizzolla, project director for EIA and consenting at Royal HaskoningDHV;
 - Mr Fraser McDermott, principal environmental consultant at Royal HaskoningDHV;
 - Mr Brian McGrellis, onshore consents manager for the Projects;
 - Mr Gero Vella, offshore consents manager for the Projects; and
 - Ms Claire Smith, principal environmental consultant at Royal HaskoningDHV.



2 Agenda Item 2: Effects on Terrestrial Ecology

2.1 Hundred River

2.1.1 Priority Deciduous Woodland – Wet Woodland

5. The ecological surveys to date have been undertaken by suitably qualified ecologists and within the optimal surveying windows. All surveys have been undertaken in accordance with industry guidance (such as but not limited to the Handbook for Phase 1 Habitat Survey (Joint Nature Conservation Committee (JNCC)). In accordance with this guidance, the habitats have been assigned the appropriate classification based on the species noted at the time of the surveys. Furthermore, species-specific guidance and standards have been used when assessing habitats for their suitability to support legally protected and notable species.
6. Wet woodland typically occurs on poorly drained or seasonally wet soils. It can be found on floodplains, as successional habitat on fens, mires and bogs, along streams and hill-side flushes and in peaty hollows. It occurs on a range of soil types, including nutrient-rich mineral soils and acid, nutrient-poor organic soils. Predominant tree species usually include alder, birch and willow, but ash, oak, and beech can be present on the drier riparian areas.
7. Semi-natural broadleaved woodland is characterised by trees that are typically deciduous with broad and varied leaf shapes. The pattern of losing and gaining leaves allows for the woodland floor and understorey to be as varied as the canopy.
8. Regarding the woodland to the east and west of the Hundred River, the key ground fauna species recorded during the 2018 Extended Phase 1 Habitat Survey include bramble, bracken and gorse. The tree species recorded include oak, silver birch, hawthorn, holly, creeping willow and horse chestnut. Whilst some of the species recorded can be associated with wet woodlands, when assigning the classification of semi-natural broadleaved woodland this has been determined using a site wide understanding of the species recorded during the surveys, in combination with industry guidance of assigning habitats (i.e. a classification of semi-natural broadleaved woodland was considered the most appropriate).
9. Extended Phase 1 Habitat Surveys can be undertaken throughout the year and therefore the Applicants have since revisited the site (15th – 16th February 2021) and verified that the woodland within the Order limits does not comprise species associated with wet woodland. Upper canopy species were recorded as scattered



oak, cypress, beech, silver birch, hazel and sycamore throughout. Alder and willow were present along the edge of the Hundred River, and this is within their typical habitat requirements. There was a limited middle canopy present, with key species comprising primarily of hazel and blackthorn. Ground vegetation species included daffodil, snow drop, broad leaf dock, cleavers, nettle, teasel, ground ivy, bramble, ferns and a small patch of reed canary grass. Yorkshire fog, forget-me-not and horsetail were also prevalent, with pin cushion moss and delicate fern moss being recorded.

10. The topography of the woodland is relatively flat adjacent to the Hundred River, which has low gradient banks. This alludes to some waterlogging should the river overtop during high water events. However, the woodland was dry at the time of the survey which followed several days of snowfall and rain. Mature alder was growing along the edges of the Hundred River; a wet woodland would be characterised by dense thickets of young alder.
11. At the Hearing, East Suffolk Council (ESC) and Suffolk County (SCC) confirmed that they had undertaken a separate and independent site visit and had come to the same conclusion as the Applicants that this area does not comprise wet woodland. Species noted within the Suffolk Energy Action Solutions' (SEAS) Deadline 5 submission (REP5-108) were not recorded and ESC subsequently advised that purple moor grass (noted as present in REP5-108) has not previously been recorded within this part of Suffolk. Golden saxifrage (also noted in REP5-108), was also not recorded, however an abundance of ground ivy was noted.
12. A full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1).

2.1.2 Adjacent Meadow and Hairy Dragonfly

13. The assessment of habitats for their suitability to support legally protected and notable species was undertaken by suitably qualified ecologists and was informed by species-specific guidance and standards. Specifically, Natural England's standing advice guidance: Invertebrates: surveys and mitigation for development projects (2015) was used for invertebrates.
14. The hairy dragonfly is typically found around waterbodies where there are a variety of different plants (e.g. ditches in grazing marshes, gravel pits and canals).
15. No evidence of suitable habitat was found during the 2018 or 2019 surveys and therefore no invertebrate (terrestrial or aquatic) survey was undertaken for the Applications (**section 22.5.3.8** of **Chapter 22 Onshore Ecology** (APP-070)).
16. The Applicants have since revisited the proposed Hundred River crossing location (15th – 16th February 2021) and assessed the habitat conditions at the

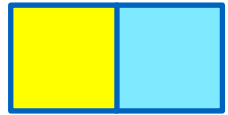


Hundred River itself, as well as of the adjoining grazing land. No emergent vegetation was identified and limited bankside vegetation (key species being bramble (*Rubus* spp.), nettle (*Urtica dioica*), teasel (*Dipsacus*) and perennial rye grass (*Lolium perenne*)) was recorded. Cattle were present on the grazing land and the key species noted comprised perennial rye grass and Yorkshire fog among open muddy areas. It is therefore concluded that hairy dragonfly is unlikely to be present due to the absence of its habitat requirements. A full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1).

17. The Applicants have committed to undertake pre-construction surveys, and should the presence of invertebrates or suitable habitat for invertebrates be identified from the pre-construction surveys, appropriate mitigation measures (if required) will be implemented through the final Ecological Management Plan (EMP).

2.1.3 Watercourse Crossing Method Statement

18. Appendix 4 of the **Outline Watercourse Crossing Method Statement** (ExA.AS-5.D6.V2) includes commentary on the unsuitability of a trenchless technique for the Hundred River crossing. This Appendix has been updated at Deadline 6 to include further justification of the unsuitability of micro-tunnelling.
19. The Applicants consider a micro-tunnel operation to be unfeasible due to the disturbance it would impose to the area such as:
 - The delivery of the plant, machinery and piping required for this operation as well as the handling and disposal of the material used and removed from the tunnelling operation would involve considerably higher levels of traffic than for an open trench solution;
 - It would require the construction and installation of two deep/large caissons/pits (at entry/exit points) for the machine drilling head to be installed/removed;
 - It would require the set-up of a large compound at the entry point to cover all aspects of the works including but not limited to set-up of control rooms/offices, laydown area, water, soil and waste management plant areas, among others; and
 - The construction programme (including reinstatement of the affected areas) for this technique will extend significantly from that of the open trench crossing technique.



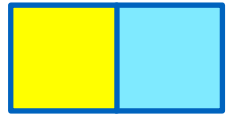
2.2 Other Terrestrial Ecology

2.2.1 Bats

20. A desk-based exercise and field survey across the entire onshore development area were undertaken for bats. The findings of these informed the Ecological Impact Assessment (EclA) presented in **Chapter 22 Onshore Ecology** (APP-070). Biological records (including bat records) were obtained from the Suffolk Biodiversity Information Service (SBIS). The findings from the desk-based and field survey effort were also used to inform the **Deadline 4 Ecology Clarification Note** (REP4-005).
21. The Applicants acknowledge that the brown long-eared bat is common and widely distributed across Suffolk. However, the suite of bat surveys (emergence / re-entry, monthly activity transects and monthly static bat detector) did not record this species. Therefore it was concluded this species was absent in this particular study area.
22. Although the static bat detector deployed at survey point 1B (on the edge of Laurel Covert) failed on two of the four surveying occasions, the static bat detector survey effort was supplemented by walked monthly transect surveys. Additionally, the second bat detector (at survey point 1A), which was located at the southern edge of the copse of trees west of the western substation footprint, was operational for the duration of the survey. The findings from both survey efforts have been used to draw the conclusions presented in both **Chapter 22 Onshore Ecology** (APP-070) and the **Deadline 4 Ecology Clarification Note** (REP4-005).
23. The Applicants have committed to undertaking pre-construction bat activity and roost surveys prior to construction, as stated in **section 5.8** of the **Outline Landscape and Ecological Management Strategy** (OLEMS) (an updated version has been submitted at Deadline 6, document reference 8.7). The findings of these will be used to inform the requirement for mitigation measures and/or licensing requirements.
24. ESC made a number of oral submissions at the Hearings which were included in their Deadline 5 submissions (**East Suffolk Council's Response to Additional Information Submitted by Applicants at Deadline 4** (REP5-48)) and the Applicants have responded to these in the **Applicants' Comments on East Suffolk Council's Deadline 5 Submissions** (ExA.AS-18.D6.V1).

2.2.2 Badgers

25. An Extended Phase 1 Habitat Survey was undertaken in April 2019, and this identified one active badger sett [REDACTED] and other active badger sets within the wider substation area.



26. Based on the findings of the badger surveys undertaken to date, the Applicants have submitted a draft badger method statement and licence application to Natural England to seek a Letter of No Impediment (LONI) for any active badger setts within the onshore development area. A redacted version of which has been submitted by the Applicants at Deadline 6 (REF).
27. As noted in **section 10.2** of the **OLEMS** (an updated version has been submitted at Deadline 6, document reference 8.7), the Ecological Clerk of Works (ECoW) will have responsibility for ensuring that all surveys and mitigation measures in respect to badgers are adhered to during construction.
28. The Applicants acknowledge the mobility of badgers and therefore have committed to undertaking pre-construction surveys for badger post-consent. These will identify any changes since the surveys undertaken for the Applications and ensure mitigation measures reflect up to date data. Surveys will also inform a full mitigation badger licence application at that time.

2.2.3 Noise

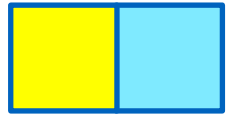
29. The Applicants note that this agenda item was discussed as part of other agenda items.

2.2.4 Air Quality

1. The assessment presented in the Deadline 3 **Air Quality Clarification Note** (REP3-061) stated that the vast majority of plant used during construction would have an engine size between 130 and 560 kW. The Stage V emission standards provide regulation for engines <130 kW and >560 kW, and more stringent particulate emission factors for all plant. For plant in the engine size range 130 – 560 kW, there is no change to the NO_x emission factor with the introduction of Stage V. Therefore, there would be few items of plant which would benefit from the reduced NO_x emissions from Stage V standards. As such, the use of Stage V plant would not materially affect the predicted NO_x concentrations or nutrient nitrogen or acid deposition values presented in the assessment, and therefore the commitment to Stage V plant is not considered to be required.
2. The Applicants have submitted an **Onshore Ecological Clarification Note** at Deadline 6 (ExA.AS-14.D6.V1) which addresses the matter of NRMM and the potential impacts on Ecology.

2.2.5 Trees and Hedgerows

3. During the 15th and 16th February 2021 site visit, all trees, including a mature oak at the Hundred River crossing location, were surveyed (from the ground and using binoculars) for their suitability to support roosting bats. A limited number of visible Potential Roost Feature (PRFs) were noted, however these were not deemed to be of sufficient depth to provide suitable roosting requirements for

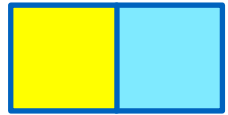


bats (i.e. temperature control and exposure to fluctuating weather conditions such as rain and/or wind) and it was therefore concluded that it provided negligible roost suitability.

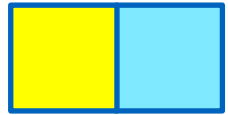
4. Details of hedgerows affected by the Projects are provided in **Chapter 22 – Onshore Ecology** (APP-070) and a hedgerow schedule is provided as Annex 1 to the **OLEMS** (an updated version has been submitted at Deadline 6 (document reference 8.7)). There are 67 hedgerows identified within the onshore development area that are assessed as important hedgerows in terms of ecological criteria (i.e. species rich and intact hedge; or hedgerows which have been recorded as having a high level of bat activity (usage)), or in terms of archaeological criteria (marks a boundary between parishes existing before 1850; or marks an archaeological feature of a site that is a scheduled monument or noted on the Historic Environment Record; or marks the boundary of a pre-1600 estate or manor or a field system pre-dating the Enclosure Acts).
5. Following the implementation of the agreed mitigation measures, hedgerows are assessed as having a temporary residual impact of minor adverse significance.
6. It is noted that the Projects are not seeking to fully remove these important hedgerows but is seeking rights to remove short sections to accommodate the onshore cable route, or (in particular at the onshore substation location) for landscape mitigation such as tree planting or strengthening of hedgerow sections. **Annex 1** of the **OLEMS** (an updated version has been submitted at Deadline 6 (document reference 8.7)) provides details of which hedgerows are to be partially removed and which are identified for landscape mitigation.
7. As outlined in the Outline Landscape and Ecological Management Plan, a pre-construction walkover survey would be undertaken by the Arboricultural Clerk of Works and Ecological Clerk of Works and an engineer to assist in micro-siting along the onshore cable route to minimise woodland, tree and scrub loss where practicable. This will include (as an example) the micrositing of spoil storage or temporary lay down areas to allow the retention of trees where possible.
8. In response to a query raised by Mr Halford regarding important hedgerow 21, the Applicants note that the DCO provides rights to remove this hedgerow, but until the routing of the onshore cable route is known, the precise extent of the hedgerow removal will not be known. Furthermore, removal will be limited to the extent required to accommodate the authorised project.

2.2.6 Ecological Enhancement and Ecological Management Plan

9. An updated **OLEMS** (an updated version has been submitted at Deadline 6 (document reference 8.7)) has been submitted at Deadline 6 which includes amended wording to accommodate Natural England's concerns regarding non-



- committal language (REP5-084). The **OLEMS** also includes details regarding appropriate buffer zones from nests during construction.
10. The Ecological Mitigation Areas will provide opportunities for ecological enhancement. These are areas to be used for temporary and permanent ecological mitigation (being Work Nos. 12A, 14, 24, 28 and 29).
 11. The Applicants specifically mentioned Work No. 12A in the Hearings which is a mitigation area located within the SPA and is only to be used in the event of an open trench crossing of the SPA. This is to be managed with the aim of providing optimal habitat for breeding nightingale. The ecological enhancement planned here includes thinning or removal of bracken and scrub to improve the habitat for nightingale. A dense field margin of rank grass and taller herbs around the scrub will also be retained by avoiding mowing during the breeding season. This was originally to be managed for a period of five years following the completion of the crossing works. However, the Applicants have increased this period to ten years (with the exception of the horse paddock which will remain as five years to allow the landowner to continue with its existing use after the five years).
 12. The Applicants have committed to annual surveys of Work No. 12A to identify areas of improvement in order to improve the ecological enhancement's effectiveness as mitigation land.
 13. . The Applicants will ensure the final SPA Crossing Method Statement includes the detailed measures to be adopted in the preparation of Work No. 12A to ensure it is prepared to the best possible standard to encourage nightingale use. As the preparation of Work No. 12A relates to thinning and management of existing vegetation, it is therefore capable of being planned in advance and implemented to an acceptable standard.



3 Agenda Item 3: Effects on Marine Mammals

3.1 Harbour Porpoise of the Southern North Sea SAC

3.1.1 Project-Alone Effects

14. Notwithstanding the Applicants' previously stated position, after discussions with the MMO and NE in January 2021 the Applicants understand that the MMO and NE have fundamental issues with the concept of a project alone SIP and therefore the Applicants are engaging with the MMO and Natural England in relation to a DML condition that secures the project alone commitments (i.e. no concurrent noisy activities and only a single noisy activity in any 24 hour period in the winter season). A multi-party workshop was held on 16th February to discuss the wording of a condition and the Applicants are considering comments made by the MMO and NE at that workshop and intend to include a condition controlling piling and UXO detonations within the draft DCO at Deadline 7.

3.1.2 In-Combination Effects

15. The Applicants consider the best way to secure mitigation for any identified in-combination effects is through the SIP. The MMO proposed alternative wording for the SIP condition at Deadline 5 and following engagement with the MMO and Natural England, the Applicants have agreed to include a slightly amended version of the text proposed by the MMO within the draft DCO at Deadline 7.

3.1.3 Inclusion of UXO Clearance Activities within the DMLs

16. The Applicants are content that any information they would need to present for a standalone marine licence application post-consent is already included within the EIA and Applications or is secured by the conditions of the DMLs.

3.1.4 Derogation Case

17. The Applicants do not consider that there is a requirement to provide a derogation case or compensation measures for the SNS SAC. The project alone effect which is of concern to Natural England (potential exceedance of daily noise thresholds in the winter season) will be dealt with by the condition controlling piling and UXO detonations discussed in **section 3.1.1**. By limiting to one noisy activity per day during the winter season, there is no potential for project-alone Adverse Effect on Integrity (AEOI).

3.2 In-Principle Site Integrity Plans

18. With regard to the content of the In-Principle Site Integrity Plan (IPSIP), the Applicants consider the scope of the IPSIP to be in line with best practice, providing a framework for the implementation of mitigation and a selection of potential mitigation mechanisms. The document is intended to be inclusive rather



than exclusive and inclusion of specific mitigation techniques at this stage is purely for illustration. It is recognised that the industry is dynamic and new techniques may come forward in future.

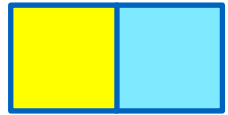
19. The MMO proposed alternative wording for the SIP condition at Deadline 5 and following engagement with the MMO and Natural England, the Applicants have agreed to include a slightly amended version of the text proposed by the MMO within the draft DCO at Deadline 7.
20. During the Hearings the ExA queried whether the co-operation condition in the **draft DCO** (XXX) (Condition 25 in Schedule 13 and Condition 21 in Schedule 14) should require co-operation on the SIP in relation to piling as this is not currently included within the scope of the condition. The Applicants are grateful to the ExA for noticing this and confirm that this was an oversight. The Applicants will update this condition in the **draft DCO** (XXX) to be submitted at Deadline 7.
21. The ExA also queried whether the co-operation condition should go any further. The Applicants have considered the comments made at the Hearings and intend to update the condition at Deadline 7 to require the undertaker to submit to the MMO any comments received from the other undertaker when submitting the relevant plan or document for approval.

3.2.1 Marine Mammal Mitigation Protocols

22. At the Hearings the MMO spoke about low-order techniques, in particular low-order deflagration and the Applicants are in agreement with their oral submissions.
23. It is important to note that the use of the low-order techniques such as low-order deflagration is dependent on the condition of the UXO and that under certain circumstances, low-order techniques cannot be used.
24. Furthermore, the Applicants will not know what condition a potential UXO is in until it is investigated with a Remotely Operated Vehicle (ROV) and inspected.
25. Therefore, whilst the use of low-order techniques is the Applicants' preference for clearance of UXO, it is not possible to make a commitment to using them in every UXO clearance situation as it will not be known whether it is a feasible option until the clearance operation is underway.

3.2.2 Timescales for Discharge of Plans and Document Relating to UXO Clearance Activities

26. The Applicants have proposed that the SIP, MMMP, and most parts of the UXO method statement can be submitted to the MMO for approval six months prior to any UXO activities taking place. However, the final detailed plan of the UXO locations and the exclusion zones/environmental micro-siting requirements will



be submitted at least three months prior to UXO clearance activities. The MMO indicated at the Hearings they were content with this approach.

27. The Applicants updated condition 16 of the Generation DML and Condition 12 of the Transmission DML in the **draft DCO** submitted at Deadline 5 to reflect the amended timescales for submission of these documents.

3.2.3 Construction Monitoring – Cessation of Piling

28. The Applicants and the MMO have agreed that the detail of this can be provided within the IPMP (and successor documents post-consent).

3.2.4 Any Other Marine Mammal Matters

29. The ExA queried whether the maximum hammer energy specified within the DMLs would be sufficient. The Applicants note that other projects have been consented with higher maximum hammer energies, but consider that based on the site-specific cases for the Projects the hammer energies assessed and included in the Applications (i.e. 2,400kJ for pin-piles and 4,000kJ for monopiles) are appropriate. The Applicants highlight that **section 11.6.1.4.1.2 of Chapter 11 Marine Mammals** (APP-059) presents the experience from several projects in terms of the actual hammer energies reached during piling, with, for example, East Anglia ONE only reaching 63% of the maximum hammer energy predicted and consented.



4 Agenda Item 4: Effects on Fish and Shellfish Ecology

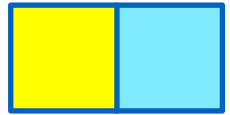
4.1 Outstanding Effects on Concern of Fish and Shellfish Ecology

4.1.1 Underwater noise implications of the inclusion of monopile foundations for offshore platforms

30. As described within the **Deadline 3 Project Update Note** (REP3-052) and at ISH 3, the worst case diameter of a monopile is 15m for wind turbines and offshore substations so the impact has been assessed through the modelling already undertaken as part of the assessment for wind turbines. It does not matter what is placed upon the foundation, it is the pile diameter that is important.
31. Therefore, the maximum ranges presented in **Additional Submission - Applicant's Comments on Relevant Representations - Appendix 3: Fish and Shellfish Ecology Clarification Note** (AS-040) are the same for a monopile for an offshore platform. The Applicants consider that there is therefore no requirement to update Table 4 within the **Deadline 3 Project Update Note**.

4.1.2 Seasonal Restrictions

32. The Applicants discussed the context of the request for a piling restriction for herring spawning and the evidence base and guidance upon which the assessment was undertaken.
33. It is the Applicants opinion that the piling duration is 'short' and 'intermittent' due to the fact that the **total piling time** within the 27 month construction period is limited (i.e. less than 40 days for all wind turbines and platforms as assessed in the Applications). The Applicants consider that given this total duration and the short duration of spawning (as set out by the MMO in REP5-075), it is unlikely piling would overlap with a spawning period. In addition, the Applicants highlight that the Rampion project, which was mentioned as a recent project with a piling restriction for spawning fish, is immediately adjacent to a spawning ground and this is not the case for the Projects.
34. Notwithstanding this, the Applicants have considered the MMO's request and are prepared to commit to a 2-week piling restriction on the basis suggested by the MMO in REP5-075. However, the Applicants consider that given that the spawning period is not fixed to a set period, it would be practical to define the exact period of the restriction based upon up-to-date data sets pre-construction rather than at the current time.



4.1.3 Other Effects

35. The Applicants have committed to undertaking sandeel monitoring (through sediment particle size analysis (PSA)) as described in the updated *IPMP* submitted at Deadline 6 (document reference 8.13).

4.1.4 Natural England's outstanding concerns

36. The Applicants noted that although there appear to be outstanding issues in the NE Risk and Issues Log (REP5-088), all issues regarding fish were closed out within the SoCG (REP1-056). See response to Action 17 in Table 2 of the *Applicants Responses to Hearings Action Points* (document reference ExA.HA.D6.V1) for further details on the status of these matters.