From: Coe, Jack

To: <u>East Anglia ONE North</u>

Cc: Qureshi, Mark; Mullan, Lindsey; Reed, Rebecca

Subject: EA1N Deadline 3 response **Date:** 15 December 2020 17:10:15

Attachments: Copy of Appendix 1 SNS Activity Tracker webpage version example 15122020.xlsx

EA1N Deadline 3 response.pdf

To whom it may concern,

Please find attached the Marine Management Organisation (MMO) response to Deadline 3 in the examination of the proposed East Anglia One North Offshore Wind Farm. Could you please confirm that you are in receipt of these documents.

Please do not hesitate to contact me should you have any guestions.

Kind regards,

Jack Coe | Marine Licensing Case Officer | Marine Licensing | Marine Management Organisation

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During the current health emergency, the Marine Management Organisation is continuing to provide vital services and support to our customers and stakeholders. We are in the main working remotely, in line with the latest advice from Government, and continue to be contactable by email, phone and on-line. Please keep in touch with us and let us know how we can help you https://www.gov.uk/mmo

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Want to tell us what you think of the South, North East, North West, South East and/or South West Marine Plans? Then we'd appreciate your views through our voluntary <u>South</u>, <u>North East</u>, <u>North West</u>, <u>South East</u> and <u>South West</u> surveys.

Please provide your views in our <u>call for evidence</u> on the assessment of five marine protected areas in England – open until 15 December.

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East Anglia One North Case Team Planning Inspectorate EastAngliaOneNorth@planninginspectorate.gov.uk (By email only)

MMO Reference: DCO/2016/00004

Planning Inspectorate Reference: EN010077

Identification Number: 20024128

15 December 2020

Dear Rynd Smith,

Planning Act 2008, Scottish Power Renewables, Proposed East Anglia One North (EA1N) Offshore Windfarm Order

MMO Deadline 3 Response

On 19 December 2019, the Marine Management Organisation (the "MMO") received notice under section 56 of the Planning Act 2008 (the "PA 2008") that the Planning Inspectorate ("PINS") had accepted an application made by Scottish Power Renewables (the "Applicant") for determination of a development consent order (DCO) for the construction, maintenance and operation of the proposed East Anglia One North Wind Farm (the "DCO Application") (MMO ref: DCO/2016/00004; PINS ref: EN010077).

The Applicant seeks authorisation for the construction, operation and maintenance (O&M) of the DCO Application, comprising of up to 67 wind turbine generators together with associated onshore and offshore infrastructure and all associated development ("the "Project"). This includes two Deemed Marine Licences (DMLs) under Schedules 13 and 14.

This document comprises the MMO comments in respect of the DCO Application submitted in response to Deadline 3.

The MMO notes the Applicant has advised in an email dated 14 December 2020 that there has been a change to the project with the inclusion of monopile foundations to the foundation options for offshore platforms. The MMO will review the updates and make further comment on this at Deadline 4.

The MMO submits the following:

- 1. Summary of Oral Cases made during the Biodiversity and Habitats Regulations Assessment (HRA) Issue Specific Hearing (ISH)
- 2. Comments on any additional information/submissions received at Deadline 2
- 3. Comments on Applicants' comments on Relevant Representations-Volume 3: Technical Stakeholders
- 4. Notification of wish to make oral representations at the Issue Specific Hearing 3, 5 and 6
- 5. Update on the Statement of Common Ground

This written representation is submitted without prejudice to any future representation the MMO may make about the DCO Application throughout the examination process. This representation is also submitted without prejudice to any decision the MMO may make on any associated



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application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or for any other authorisation relevant to the proposed development.

Yours Sincerely,



Jack Coe Marine Licencing Case Officer D +44 (0)208 026 5726

E <u>Jack.Coe@marinemanagement.org.uk</u>







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1. Summary of Oral Cases made during the Biodiversity and Habitats Regulations Assessment (HRA) Issue Specific Hearing (ISH)

1.1 Agenda Item 3 (a) (iii)

The MMO welcomes the Applicants inclusion of a 2km buffer for the EA1N project. The MMO will review all documents submitted by the applicant with regards to managing the displacement effect on Red Throated Divers as a result of these works as well as the updated DCO/DML and will provide comments at Deadline 4.

The MMO is interested to see where the inclusion of a 2km buffer will impact any other designated sites located near the proposed wind farm footprints. We expect these considerations will be included in the Applicant's Deadline 3 response.

1.2 Agenda Item 3 (b) (iv)

The MMO defers to Natural England on matters of ornithology but will review any updated documents and will provide comments at Deadline 4 if required.

1.3 Agenda Item 3 (c) (iii)

The MMO defers to Natural England on matters of ornithology but will review any updated documents and will provide comments at Deadline 4 if required.

1.4 Agenda Item 3 (d) (ii)

The MMO defers to Natural England on matters of ornithology but will review any updated documents and will provide comments at Deadline 4 if required.

1.5 Agenda Item 3 (e) (ii)

The MMO defers to Natural England on matters of ornithology but will review any updated documents and will provide comments at Deadline 4 if required.

1.6 Agenda Item 3 (f) (iii)

The MMO did not have any comments on this agenda point.

1.7 Agenda Item 4

The MMO defers to Natural England on technical matters regarding the disturbance of Harbour Porpoise in the Southern North Sea (SNS) Special Are of Conservation (SAC). The MMO is aware that an updated Marine Mammal Mitigation Protocol (MMMP) and In-Principle Site Integrity Plan (IPSIP) will be submitted at Deadline 3, the MMO looks forward to reviewing these documents and will provide a response at Deadline 4.

The MMO recognises that there is disagreement between interested parties as to the role of the Site Integrity Plan (SIP) in this application and how it should be used, the MMO acknowledges these positions.

The MMO is a member of the SNS Regulators Working Group and as such, are part of discussions regarding how activities which generate noise can be managed. There is currently an Activity Tracker available for any users of the sea to update when generating noise within the SAC. This is found within the Statutory Nature Conservation Body (SNCB) Noise Guidance section on the Offshore Petroleum Regulator for Environment and Decommissioning website (https://www.gov.uk/guidance/oil-and-gas-offshore-environmental-legislation#conservation-of-offshore-marine-habitats-and-species-regulations-2017), an example has been provided in Appendix 1. The tracker will work alongside the SNS SIP that will be submitted as part of the Pre-construction documents.

The MMO maintains the position that Unexploded Ordnance (UXO) clearance should be controlled through a separate marine licence, rather than as a part of conditions within the DMLs. The Applicant is of the opinion that any UXO activity can be controlled through the





DML, the MMO is engaging in internal discussions to assess our position and will provide an update at Deadline 4

The MMO and the Applicant currently disagree with regards to the inclusion of the cessation wording for noise monitoring within the DML. The Applicant is of the opinion that a condition stipulating the immediate cessation of piling should it exceed the agreed threshold agreed within the MMMP is unnecessary as the MMO already has sufficient enforcement powers under Marine and Coastal Access Act 2009 (MCAA). The MMO disagrees with this and maintains the position that the cessation of piling should be conditioned. The MMO will continue to engage in dialogue with the Applicant on this issue as well as review any updates to the DML/DCO and provide comments at Deadline 4.

1.8 Agenda Item 5 (a) (ii)

The MMO has no comments to make at this time, the MMO will review all submissions related to Benthic Ecology at Deadline 3 and will provide comments at Deadline 4.

1.9 Agenda Item 5 (b)

The MMO has set out our minor points related to the Sabellaria Management Plan in our Deadline 2 response.

The MMO also welcomes Natural England's comments on this document and is happy to provide updated responses when necessary. The MMO has a meeting scheduled with the applicant 18 December 2020 and looks forward to advancing discussions on this matter.

2. Comments on any additional information/submissions received at Deadline 2

2.1 Cumulative Auk Displacement and Seabird Assemblage Assessment of Flamborough and Filey Coast Special Protection Area and Gannet Population Viability Analysis [REP2-006]

The MMO has reviewed this document and defers to Natural England on the appropriateness of the assessments conducted by the applicant. The MMO remains in discussions with both Natural England and the Applicant on the potential impacts to offshore ornithology and have attended several workshops on the subject with both parties.

2.2 Guide to the application [REP2-002]

The MMO has no comments to make on this document but appreciate its usefulness for the application process.

2.3 Applicants' Comments on Written Representations Volume 2 Technical Stakeholders [REP2-016]

The MMO supports Historic England's position regarding Written Scheme of Investigation (WSI) and welcomes the applicant's commitment to amending the DCO/DML to include this. The MMO will review any updates and provide comment at Deadline 4.

The MMO recognises that there are still outstanding ornithological issues between the applicant and the Royal Society for the Protection of Birds (RSPB). The MMO defers to Natural England on ornithological matters but will review any updated documents from the applicant and RSPB and provide comment at Deadline 4.

The MMO recognises that there are still outstanding issues between the applicant and The Wildlife Trust with regards to the approach to marine mammal monitoring within the SNS SAC and the predicted effects on site integrity cited by the applicant. The MMO defers to Natural England on Habitat Regulations matters. The MMO is still in discussions with the Applicant with regards to the use of the SNS SAC SIP and will review the updated documents submitted at Deadline 3 and provide comments at Deadline 4.







The MMO recognises that outstanding issues remain between the Applicant and Suffolk Preservation Society with regards to the impact to Areas of Outstanding Natural Beauty (AONB) as a result of these works. The MMO defers to Natural England on these matters but will review any updated documents and provide comments at Deadline 4 if required.

2.4 Effects with Regard to the Statutory Purposes of the Suffolk Coast and Heaths AONB and Accordance with NPS Policy [REP2-008]

The MMO has reviewed this document. The MMO notes that with regards to the potential impacts to AONB, the Applicant and Natural England are not in agreement. The MMO hopes these issues can be resolved.

The MMO also notes that the Applicant has referred to the potential impacts of these projects as 'temporary and reversible' in nature. The MMO defers to Natural England on the appropriateness of this statement.

The MMO notes the points raised by the Applicant in sections **5.2.3.1.2** and **5.2.3.2.1** and defers to Natural England on the effectiveness of the actions undertaken by the applicant to reduce offshore impacts to AONB.

2.5 Applicants' Comments on Responses to the ExA WQ1s [REP2-014]

The MMO notes that Natural England and the Applicant currently disagree with the need for a minimum flight height restriction to be conditioned in the DML. The MMO will continue to engage with both parties on this matter and will review any updates to the DCO and provide comments at Deadline 4 if required.

The MMO acknowledges that Natural England does not consider that there are enough monitoring conditions currently contained within the DML, and that the applicant will be addressing these concerns in the revised DCO/DML to be submitted at Deadline 3. The MMO will review any updated documents and provide comments at Deadline 4.

The MMO note that there is disagreement with the Applicant with regards to the requirement for a condition that ensures that all relevant documents are submitted to the relevant SNCB 6 months prior to any UXO activities taking place, as the applicant considers 3 months to be sufficient time. The MMO's position remains unchanged on this issue in that all relevant documents should be submitted to the relevant SNCB 6 months prior to any UXO activities taking place. This is to ensure the approval process isn't overwhelmed. The MMO notes the DML will be updated at Deadline 3 and we will continue to engage with the Applicant throughout the examination process and provide comment at Deadline 4.

The MMO will continue to engage in discussion with the applicant, as well as Natural England and The Wildlife Trust, regarding the limiting of piling within a 24-hour period. These discussions will be captured in the updated Statement of Common Ground (SoCG) to be submitted at Deadline 4 or future written submissions.

The MMO notes that the Applicant has committed to no concurrent piling either within the Project alone or between EA1N and East Anglia 2 (EA2) Projects. The MMO notes this will be updated in documents to be submitted at Deadline 3. The MMO will review any updated documents and provide a response at Deadline 4.

The MMO welcomes the Applicant's agreement on the question as to whether the IPSIP should be revised, and both parties have concluded that this should not be the case as the IPSIP is a set of principles. The MMO has no further comments to make at this stage but will review any updated documents and provide comment at Deadline 4 if required.

The MMO welcomes the Applicant's commitment to utilising the online noise Activity Tracker for future applications. We also welcome the confirmation that the Applicant has utilised Joint Nature Conservation Committee (JNCC) advice to inform their In-Principle SNS SAC SIP. The MMO looks forward to providing comments on the updated Plan at Deadline 4.







The MMO notes that the Applicant has considered maximum impact range for Permanent Threshold Shift (PTS) of up to 11.1km using peak sound pressure level (SPLpeak) criteria as a mitigation measure to be included in their MMMP. The MMO reserves comment on this until the updated document is reviewed and will provide comments at Deadline 4.

The MMO acknowledges that there is still an area of disagreement with the Applicant with regards to the cessation of piling if noise levels are significantly higher than those assessed in the Environmental Statement (ES). The MMO and the Applicant have a meeting on 18 December 2020 to discuss matters further.

The MMO will continue to engage in discussion with the applicant regarding the adequacy of monitoring in the SNS SAC, and the use of micro-siting to protect benthic habitats if necessary, throughout the remainder of the examination.

The MMO notes the Applicant's intention to update the Offshore WSI that is contained within the DML. The MMO supports Historic England's position on this and look forward to reviewing any updates and providing comment at Deadline 4.

The MMO welcomes the Applicant's commitment to engaging in discussions with the MMO regarding offshore disposal sites and look forward to engaging them in discussion. This issue will be captured within the updated SoCG to be submitted at Deadline 4.

2.6 Applicants' Responses to Natural England's Deadline 1 submissions [REP2-004]

The MMO is aware that there remain ornithology-related issues between the Applicant and Natural England. The MMO is engaging with both parties and attended a workshop on 7 December 2020 to address these issues. The MMO will review any updated documents and provide comment at Deadline 4.

The MMO reserves comment on all other matters and will review the updated DCO/DML and provide comments at Deadline 4.

2.7 NE Comments on Outline Sabellaria Reef management plan [REP1-044]

The MMO supports Natural England's comments on this document with regards to the recommended changes. The MMO reserves comment until the updated DCO/DML has been reviewed. The MMO will provide comments at Deadline 4.

2.8 NE Comments to the Outline SPA Crossing Method Statement v2 [REP1-043]

The MMO has reviewed this document and defers to Natural England on matters of Cumulative and In-Combination effects in relation to the Habitat Regulations.

2.9 NE Comments on Ecological Enhancement Clarification Note [REP1-035]

The MMO has reviewed this document and notes the advice that Natural England has provided to the applicant, the MMO defers to Natural England on these matters.

3. Comments on Applicants Comments on Relevant Representatives, Volume 3: Technical Stakeholders [AS-036] including Appendices 1, 2, 3 and 6.

3.1 Section 4.12 - General Comments

The MMO understands the Applicant would like the MMO's response to their comments on the MMO's Relevant Representation. The MMO believes that at both Deadline 1 and Deadline 2 we provided further comments on their positions. However, to ensure all information has been provided to the ExA the MMO has provided the following comments on matters that may not have been progressed at earlier deadlines.

3.2 Table 29 Numbers 001 to 026 Draft DCO and DMLs

As the Applicant is providing an updated draft DCO at Deadline 3 the MMO will provide comments at Deadline 4.







3.3 Table 29 Numbers 027 to 037 Certified Plans

The MMO has continued discussions with the Applicant and understands the documents will be updated and submitted at Deadline 3 and provide any comments at Deadline 4. This will also be reflected in the SoCG to be submitted at Deadline 4.

In relation to Underwater Noise and the MMMP and comment number 37 (EA2) and 36 (EA1N) the MMO acknowledges that what the Applicant is saying is correct, in that the cumulative Sound Exposure Level (SELcum) value would be the same as the single strike Sound Exposure Level (SELss) for a UXO detonation. However, the SPLpeak, rather than the SELss, is the most appropriate metric to apply in this instance, since it better reflects the risk of instantaneous auditory injury. The risk of auditory damage depends on how high peak pressures get (and how rapidly they rise), which – out of the standard metrics available – is best reflected by the SPLpeak. Therefore, it is appropriate that the SPLpeak criteria is considered.

Nevertheless, this comment was referring to the fact that the mitigation within the draft MMMP should take into consideration the largest predicted impact range, which in this case is 11 km (based on the SPLpeak metric), and not 3.6 km (based on the SELss). The MMO believes the MMMP is based on / considers the maximum predicted impact ranges, which in this case are the SPLpeak predictions.

3.4 Table 29 Numbers 038 to 046 Dredge and Disposal

The MMO highlights that there are still ongoing discussions with the Applicant about disposal sites. The MMO will provide an update at Deadline 4.

3.5 Table 29 Numbers 047 to 051 Policy and Legislative Context

The MMO is content with the response and the inclusion of document AS-038 - Appendix 1: Marine Policy Clarification Note.

3.6 Table 29 Numbers 052 to 056 Marine Geology, Oceanography and Coastal Processes

The MMO is content with the Applicant's response and the inclusion of document AS-039 - Appendix 2: Wave Climatology Clarification Note. The MMO has no further comments on Marine and Coastal Processes at this stage, this has been reflected in the SoCG.

3.7 Table 29 Numbers 057 to 075 Benthic Ecology

The MMO has two major outstanding comments on the Applicant's response in relation to benthic ecology. These have been set out below in 3.7.1 and 3.7.2.

3.7.1 Number 063 (EA2) and 055 (EA1N)

The MMO is still in discussion with the Applicant as to whether benthic monitoring for sediment and infauna is required. The MMO notes that studies undertaken in the Belgian Exclusive Economic Zone indicate impacts to benthic communities around the turbine bases up to 50m away (Degraer et al. (2012) and references therein, also refer to MMO, 2014.

The fact that the turbine base dimensions are larger than those that have been included in monitoring studies to date implies that monitoring at a selection of turbines (cruciform design with grab samples taken for sediment and fauna at set distances from the turbines) within each of the sites, as a minimum, should be included as mandatory.

In the absence of a strategic monitoring plan for the industry, it is also important that benthic monitoring is undertaken at these sites (EA1N/EA2) to enable the assumptions made in the ES to be validated. This information would then feed into any future strategic programmes.

3.7.2 Number 072 (EA2) and 074 (EA1N)

The MMO recognises that the Applicant will be ensuring its vessels comply with MARPOL (International Convention for the Prevention of Pollution from Ships) protocols, however this





does not negate the need to include colonisation of foundations and the spread of non-native invasive species (NIS) from the Cumulative Impact Assessment (CIA). The Applicant has recognised that other vessels operate in the area which may not apply the protocol.

The MMO does not agree that there is limited potential for the spread of NIS within an individual windfarm or between windfarms. The Applicant also needs to consider the potential for other windfarms to be built in the vicinity of the EA wind farm sites, which could increase the potential for the EA windfarms to act as steppingstones.

NIS dispersal could also be influenced by climate change, which may make windfarms steppingstones for species that are currently prevented from spreading by thermal constraints. The MMO therefore expects NIS to be considered in the CIA, while acknowledging that there will be a high level of uncertainty in these assessments.

The MMO has some minor comments that may need further action below:

3.7.3 Number 059 (EA2) and 056 (EA1N)

The MMO notes that contaminant samples were taken at two sites in the siltiest region along the cable corridor for EA ONE North. The MMO welcomes this and is currently confirming that this satisfies concerns from our scientific advisors.

3.7.4 Number 061 (EA1N only)

The MMO welcomes the Applicant's response and is currently confirming that this satisfied concerns from our scientific advisors.

3.7.5 Number 064 (EA2) and 065 (EA1N)

The MMO is content with the revised assessment regarding sensitivity of Sabellaria spinulosa to smothering. The MMO will consider whether it is necessary that the ES should be updated and provide a response at Deadline 4.

3.7.6 Number 066, 067, 068 and 071 (EA2) and 067, 068, 069 and 072 (EA1N)

The MMO is content with the clarifications by the Applicant on the sensitivity of underwater noise and vibration, indirect impacts in the construction phase, and habitat change and colonisation of infrastructure during the operation phase. The MMO will consider whether it is necessary that the ES should be updated and provide a response at Deadline 4.

The following comments are confirming the MMO's agreement with the Applicant's response.

3.7.7 Number 057 (EA2) and 053 (EA1N)

The MMO is content that the Applicant's response on the use of surveying of Sabellaria Reef has been covered within the In-Principle Monitoring Plan (IPMP) and the Sabellaria Reef Management Plan. Discussions are still ongoing on the detail within these documents, however the MMO believes this can be resolved prior to the end of Examination.

3.7.8 Number 061 (EA2) and 058 (EA1N)

The MMO welcomes the information provided by the Applicant and is satisfied with the response regarding indirect effects on phytoplankton growth or egg and larval development. No further action is required by the Applicant.

3.7.9 Number 062 (EA2) and 059 (EA1N)

The MMO agrees that this issue has been closed out. The MMO would reiterate that for future surveys the Day grab should be used in soft sediment and the Shipek grab should be used in coarser sediments for the collection of contaminants.

3.7.10 Number 065 (EA2) and 066 (EA1N)

The MMO is content with the Applicant's response regarding the longevity of smothering in relation to Sabellaria and that any spoil generated from drilling for the foundations will be







microsited away from any reef identified. The MMO is aware that this has been referenced by the applicant in their Sabellaria Reef Management Outline Plan. The MMO reserves comment on this point until we have reviewed the updated DCO/DML and will provide comments at Deadline 4.

3.7.11 Numbers 070, 074 & 075 (EA2) and 071, 062 & 063 (EA1N)

The MMO welcomes the clarification by the Applicant regarding sensitivity to smothering during the operational phase, sensitivity and magnitude and wave height. The MMO has no further comments to make.

3.7.12 Number 073 (EA1N Only)

The MMO welcomes the Applicant's confirmation that there are no changes to the overall assessments despite the changes in significance and has no further comments.

3.7.13 Number 069 (EA2) and 070 (EA1N)

The MMO acknowledges the Applicants response and will review the Design Plan once developed. In addition to this the MMO notes the IPMP will be updated and welcomes the inclusion of the Sabellaria Reef Management Plan.

3.8 Table 29 Numbers 076 to 089 Fish Ecology

The MMO has major comments in relation to fish ecology is continuing discussions with the Applicant on the potential impacts to spawning herring arising from piling activity and the potential impacts to sandeel habitat arising from the construction and installation of the two offshore wind farms.

3.8.1 Number 076 (EA2) and 076 and 077 (EA1)

The MMO thanks the Applicant for presenting the revised Figures 1-3 which depict larval densities for the International Herring Larvae Survey (IHLS) carried out in September, December and January from 2007-2017. The figures show that there is no overlap of larval densities from the Banks herring spawning grounds (September surveys) with the EA1N and EA2 sites. Larval densities for the Downs herring stock from the January IHLS surveys are shown to overlap the EA1N and EA2 sites, whereas larval densities from the December surveys (Downs stock) are typically present slightly further south of the EA1N and EA2 sites.

3.8.2 Number 077 to 084 (EA2) and 078 to 080 (EA1)

The MMO thanks the Applicant for their explanation regarding the worst-case scenarios in terms of the impact ranges for pin piles and monopiles. Table 1 provides a good visual overview of the impact ranges for Temporary Threshold Shift (TTS) associated with pin piling and monopiling for a stationary and fleeing receptor for three of the four hearing categories for fish from Popper et al. (2014). Overall, the largest impact ranges for EA1N and EA2 apply to a stationary receptor for both pin piling and monopiling.

In addition to this the MMO also thanks the Applicant for presenting the revised underwater noise modelling using a stationary receptor and monopiling scenario, based on the January IHLS survey data (Figure 7). The TTS noise contours show that there is an overlap with areas of 'medium' larval density, indicating that noise and vibration will propagate across the northerly areas of the Downs herring spawning grounds. This correlates well with the IHLS data mapped in Figures 1-3 as discussed above.

The TTS noise contours surrounding EA1N and EA2 overlap with areas where 'medium' larval densities typically occur. Whilst this indicates potential impacts to spawning herring and their eggs and larvae, the MMO acknowledges that the overlap is somewhat sporadic and that higher larval densities typically occur further to the South, in the English Channel, during the December spawning period. With this in mind, the MMO does not have any major







concerns that the effects from noise and vibration on eggs and larvae will result in significant impacts at a population level.

However, the MMO does have major outstanding concerns for gravid adult herring which are likely to exhibit behavioural responses to noise and vibration from piling.

It is well understood that there are two migrations of herring stocks which take place in the Southern North Sea; the Banks stock undertake a North to South migration passing through the Southern North Sea during November, whilst the Downs herring undertake migration through the English Channel to the Southern North Sea between December and January. With this in mind, there is a need to determine whether noise and vibration from piling is likely to result in behavioural responses to migrating herring which could impede either the Banks or Downs migrations to their spawning grounds.

The MMO requests that the applicant presents additional noise modelling depicting the behavioural noise contours based on monopiling for a stationary receptor.

3.8.3 Number 085 (EA2) and 081 (EA1)

The MMO welcomes the Applicant's response. The ES acknowledged the limitations of delineating spawning grounds and recognised that the depiction of spawning ground can over or under-represent the true spawning habitat.

The original comment was made to highlight that the MMO does not support the calculation of total spawning habitat for the purpose of quantifying the percentage of spawning area affected. The MMO wishes to highlight that attempting to quantify the percentage of an impacted area which is being over or under-represented will an provide inaccurate and misleading figure.

3.8.4 Number 086 (EA2) and 082 (EA1)

The MMO acknowledges the correction provided by the Applicant.

3.8.5 Number 087 (EA2) and 086 (EA1)

The MMO welcomes this clarification that a separate Marine Licence will be required for UXO detonation during the O&M phase. The MMO will review the updated Outline Offshore Operations and Maintenance Plan (OOMP) to be submitted at Deadline 3 and provide updates at Deadline 4.

3.8.6 Number 088 & 089 (EA2) and 083, 084 & 085 (EA1)

The MMO believes the supporting evidence presented by the applicant clearly shows that the EA1N and EA2 sites contain suitable sandeel habitat and that sandeel are likely colonising and spawning in the area. Data from the scientific beam trawl surveys undertaken in the former East Anglia Zone and International Bottom Trawl Survey (IBTS) data both show that sandeel species are present.

Furthermore, the sandeel habitat classification (MarineSpace 2013) determined that the EA1N and EA2 sites consist of 'preferred' and 'marginal' sandeel habitat, suggesting that the sediment can be inhabited by sandeel and used for spawning.

If the applicant is of the opinion that the area is unsuitable sandeel habitat, despite the data they have selected for use to support the ES indicating that it is, then they should present evidence to the contrary.

The MarineSpace (2013) method is used as a proxy for more invasive, timely and costly methods of determining sandeel abundance e.g. a sandeel dredge survey. If the applicant feels that the MarineSpace method is not sufficiently robust then they should consider alternative methods/sources of data to support their demonstrate that the area is unsuitable sandeel habitat.







Concerning the potential cumulative impacts on sandeel, as previously stated, we have noted the findings of Stenberg et al. (2015) on localised habitat losses as a result of OWFs. However, we highlight again that the wider habitat availability (or lack of) for sandeel resulting from multiple habitat losses from wind farm development across the North Sea has not currently been accounted for or monitored. We therefore maintain that pre- and post-construction sandeel habitat monitoring using the MarineSpace (2013) approach is necessary, in order to monitor the suitability of the EA1N and EA2 sites as sandeel habitat.

3.9 Table 29 Number 090 Shellfish Ecology

The MMO is content with the response by the Applicant and the inclusion of document AS-039 - Appendix 3: Fish and Shellfish Ecology Clarification Note. The applicant has provided the required information of the impacts of suspended sediment concentration (SSC) on Whelk and King Scallop populations at the proposed site. Appropriate data sources have been used to assess the impact. The MMO agrees with the conclusion that there will be no major significant effects caused by SSC on these species therefore no specific mitigations are required in relation to the proposed project, and has no other concerns in relation to Shellfish.

3.10 Table 29 Number 091- 096 Commercial Fisheries

The MMO welcomes the clarifications by the Applicant to the MMO comments raised at relevant representative stage. At Deadline 2 the MMO provided comments on the Fisheries Liaison and Cooperation Plan and will be continuing discussions with the Applicant on these matters.

3.11 Table 29 Number 097- 106 Underwater Noise

The MMO is content that the comments and clarifications provided by the Applicant close out previous concerns raised at relevant representative stage. The MMO still has 4 outstanding areas of discussion:

- The cumulative sound exposure level (SELcum) assessment and number of piles installed in a 24-hour period.
- The MMMP does not take into account the maximum potential permanent threshold shift (PTS) impact ranges for marine mammals;
- The MMMP does not reference the most appropriate metric for assessing the potential impacts of UXO detonation, which is the peak sound pressure level (SPLpeak) (rather than the single strike sound exposure level);
- The MMO's recommendation that the received levels of the single strike sound exposure level at the herring spawning grounds should be modelled and presented, as well as presenting noise contours onto relevant spawning data.

These are currently being discussed with the Applicant, a response to these comments is below.

3.11.1 Numbers 098 (EA2) and 095 (EA1N)

The MMO thanks the Applicant for their response; however, it should be noted that the publication of the updated Conservation Objectives for the SNS SAC in March 2019 that the applicant is referring to does not supersede the EIA process, where each development and the risks to harbour porpoise, and other marine mammals, are reviewed on a case by case basis.

Therefore, the MMO would expect the general noise modelling (underwater noise assessment) to consider the number of piles that are likely to be installed in a 24-hour period, and then base the cumulative noise exposure assessment on this.

Undertaking further noise assessments for the SIP as proposed by the applicant is somewhat immaterial and doesn't address this particular concern. The potential impacts of piling noise on all marine mammal receptors still needs to be appropriately assessed.







The MMO requests the Applicant to ensure that any general underwater noise modelling and assessments consider the maximum number of piles that will be installed in a 24-hour period. If more than one pile (monopile or pin pile) is anticipated to be installed within 24 hours, then the assessment (pile driving sequence) should account for this.

3.11.2 Number 105 (EA2) and 101 (EA1N)

The MMO acknowledges the Applicant's submission of document AS-039 - Appendix 3: Fish and Shellfish Ecology Clarification Note has been provided for review. The MMO welcomes this information and will provided further comments at Deadline 4.

3.11.3 Number 106 (EA2) and 102 (EA1N)

Please note that previous comments and recommendations are not contrary, they are context specific. The comment about the SPLpeak being the most appropriate metric to assess potential impacts was specifically made in relation to the assessment of UXO detonation. The new Southall (2019) and NOAA (2018) criteria consist of thresholds formulated using two metrics: the weighted cumulative sound exposure level (SELcum), and the SPLpeak. As highlighted in the original comments, the SPLpeak is the most appropriate metric to apply for the UXO modelling, since it better reflects the risk of instantaneous auditory injury. The risk of auditory damage depends on how high peak pressures get (and how rapidly they rise), which, out of the standard metrics available, is best reflected by the SPLpeak.

The recommendation to model the received levels of the single strike sound exposure level at the herring spawning grounds is a separate issue (different context) altogether. This is looking at how we can best assess the risk of potential impact of piling noise on spawning herring.

The MMO welcomes this information and will provided further comments at Deadline 4. Please note the MMO may ask the applicant to provide the additional modelling.

4. Notification of wish to make oral representations at the Issue Specific Hearings 3, 5 and 6

The MMO will be attending the following Issue Specific Hearings:

- Issue Specific Hearing 3 (ISH3) Biodiversity and HRA on 19 January 2021
- Issue Specific Hearing 5 (ISH5) Social, economic, land and sea use effects on 21 January 2021
- Issue Specific Hearing 6 (ISH6) Draft Development Consent Order on 29 January 2021
- Issue Specific Hearing 3A (ISH3A), ISH5A, ISH6A on 1 and 2 February 2021 (if required)

The MMO may wish to make oral representation on any marine matters if required.

5. Update on the Statement of Common Ground

The MMO has been engaging in the statement of common ground process with the Applicant. Due to the ongoing discussions and knowledge that the Applicant will be submitting updated versions of the dDCO and plans and documents. It has been agreed that the Applicant will submit the SoCG at Deadline 4. The MMO and the Applicant have a meeting scheduled for 18 December 2020 to progress as many issues as possible.

Yours Sincerely,







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References

Degraer, S., Brabant, R. and Rumes, B. Eds. (2012) Offshore wind farms in the Belgian part of the North Sea: Heading for an understanding of environmental impacts. Royal Belgian Institute of Natural Sciences, Management Unit of the North Sea Mathematical Models, Marine ecosystem management unit. 155 pp. + annexes).

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T., Gentry, R.L., Halvorsen, M.B., Løkkeborg, S., Rogers, P.H., Southall, B., Zeddies, D.G. & Tavolga, W.N. (2014). Asa S3/Sc1.4 Tr-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report Prepared by ANSI-Accredited Standards Committee S3/Sc1 a (Springerbriefs in Oceanography).

MarineSpace Ltd, ABPmer Ltd, ERM Ltd, Fugro EMU Ltd and Marine Ecological Surveys Ltd, (2013). Environmental Effect Pathways between Marine Aggregate Application Areas and Sandeel Habitat: Regional Cumulative Impact Assessments and Case Study Environmental Impact Assessments. A report for BMAPA.







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