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MMO Reference: DCO/2022/00007
Planning Inspectorate Reference: EN010125
Identification Number: 20050160

26 June 2025

Dear Sir or Madam,

Planning Act 2008, RWE Renewables UK Dogger Bank South (West) Ltd and RWE Renewables UK Dogger Bank South (East) Ltd Proposed Dogger Bank South Offshore Wind Farms Order

Deadline 7

On 10 July 2024, 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 RWE Renewables UK Dogger Bank South (West) Ltd and RWE Renewables UK Dogger Bank South (East) Ltd (the Applicants) for determination of a development consent order for the construction, maintenance and operation of the proposed Dogger Bank South Offshore Wind Farms (the DCO Application) (MMO ref: DCO/2022/00007; PINS ref: EN010125).

The DCO Application seeks authorisation for the construction, operation and maintenance of Dogger Bank South (DBS) Offshore Wind Farm (OWF), comprising of up to 100 wind turbine generators in DBS East and up to 100 wind turbine generators in DBS West together with associated onshore and offshore infrastructure and all associated development (the Project).

The DCO Application includes a draft development consent order (the DCO) and an Environmental Statement (the ES). The draft DCO includes, Marine Licence 1 (Schedule 10), Marine Licence 2 (Schedule 11), Marine Licence 3 (Schedule 12), Marine Licence 4 (Schedule 13) and Marine Licence 5 (Schedule 14) which are draft Deemed Consent (DML) under Part 4 (Marine Licensing) of Marine and Coastal Access Act 2009 (MCAA 2009).

This document comprises of the MMO's Deadline 7 response.

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 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,

[Redacted Signature]

[Redacted Name]

Marine Licencing Case Officer

[Redacted Contact Information]

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It is necessary for a temporal restriction to be placed on works which interact with the seabed along the DBS ECC route (including seabed preparatory works, cable trenching etc) between Kilometre Points 20 – 40, during the Banks herring spawning season (1 August – 31 October inclusive).	13
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1. Comments on Applicant's Response to Deadline 5 Documents (REP6-052)

1.1 General comments

1.1.1 The MMO has reviewed Tables 2.3 and 2.4 and provided comments where required below.

1.2 Decommissioning (Table 2.3 - REP5-049: 1.2)

1.2.1 The MMO notes Schedule 2. Requirement 7 to state that a written decommissioning programme will be submitted for approval to the SoS. The MMO requests that the plan could be submitted to the MMO prior to submission to the SoS for review and comments and this be captured in the commitment register. This will allow for a more efficient consultation when submitted to the SoS.

1.3 Disposal (Table 2.3 - REP5-049: 1.23)

1.3.1 The MMO has designated the following disposal sites:

- DG033 - 'Dogger Bank South Cable A'
- DG034 - 'Dogger Bank South Cable B'
- DG035 - 'Dogger Bank South West'
- DG036 - 'Dogger Bank South East'

1.3.2 The MMO previously highlighted in REP6-069 that DG033 originally bisected the Hornsea 4 Export Cable Corridor disposal site (HU225). DG033 has been amended and split in two and therefore avoids bisecting HU225. However, the MMO is still discussing this with the Applicant as if the Applicant wishes to dispose within HU225 this would need to be updated within their Site Characterisation Report. This can be done post consent.

1.3.3 The MMO request that the Applicants add the disposal site references into all relevant parts of the DML/DCO and could add and any other site references as agreed in writing with the MMO.

1.4 Chemicals (Table 2.3 - REP5-049: 1.4& Table 2.4 - 65))

1.4.1 The MMO welcomes the updates the Applicants have made to all conditions containing chemicals (Conditions 15 (1)(d), (j)).

1.4.2 Further to comments within 2.2.10 of REP6-069, the MMO can confirm that there is no preference between assessment and register for condition 14(1)(d)(ii).

1.5 Non-licensable activities (Table 2.4 - 2)

1.5.1 The MMO welcomes the updates in relation to 9A and 9B and has no further comments.

1.6 Company reference number (Table 2.4 - 7)

1.6.1 The MMO welcomes the comments in relation to Part 1, definitions which include the company reference number.

1.7 Determination dates (Table 2.4 – 25, 79 & 82)

1.7.1 The MMO welcomes the updates to six months submission and six-month approval timescale. The MMO notes the reference to Condition 15(5) was made this was the old reference number and it should be in reference to 17(2). The MMO still disagrees

with the inclusion of a determination period for the MMO to discharge a document as per the comments in Section 2.2.6 of REP6-069. The MMO notes this will remain an area of disagreement.

1.8 Design parameters (Table 2.4 - 48)

1.8.1 The MMO welcomes the changes made to Condition 3 (2) and has no further comments.

1.9 Time periods/notification periods (Table 2.4 – 51 & 56)

1.9.1 The MMO welcomes the updates to state that the phases of construction of the authorised scheme will be submitted 6 months prior to the commencement of the works.

1.9.2 The MMO welcomes the updates to Condition 9(6) to state 14 days in their notification period.

1.10 MMMP

1.10.1 The MMO welcomes the proposed updates from the Applicant to Condition 14 (1)(g) which will be updated for Deadline 7:

*“(g) in the event that driven or part-driven pile foundations are proposed to be used, a marine mammal mitigation protocol (in accordance with the outline marine mammal mitigation protocol), the intention of which is to prevent injury to marine mammals, following current best practice as advised by the relevant statutory nature conservation bodies and which must include **consideration details** of noise reduction methods **through project design (primary measures)** and/or, deployment of noise mitigation systems or noise abatement systems (**secondary measures**) that will be utilised to manage sounds from those piling activities and such protocol must include full details and justification for the mitigation chosen or excluded for deployment;”*

1.10.2 The MMO understands this has been agreed with Natural England (NE).

1.11 Without prejudice noise restriction condition

1.11.1 The Applicant proposed a condition to the MMO for review, and we have responded with the following updates. Noting that there may be minor updates required at Deadline 8, but the MMO will liaise with the Applicant as soon as possible on these so a joint position can be provided at Deadline 8. The MMO also understands this condition has been agreed with Natural England (NE).

*~~“26.—(1) In the event that driven or part-driven piled foundations are proposed to be used~~
No piling activity can commence within the [DBS East/West array area], **during the herring spawning season until a herring spawning piling restriction plan (in accordance with the herring spawning plan) is** ~~must be~~ submitted to and approved **in writing** by the MMO, in consultation with the relevant statutory nature conservation body. ~~, prior to the commencement of any piling activity within the [DBS East/West array area].~~*

*(2) The herring spawning piling restriction plan must **be submitted to the MMO no later than six months prior to the commencement to the relevant activities unless otherwise agreed in writing by the MMO.** ~~present updated underwater noise modelling, which must be based on final project parameters to be used to install piles and must include details of any mitigation measures to be employed.~~*

*(3) **The herring spawning piling restriction plan must present updated underwater noise***

modelling, which must be based on final project parameters to be used to install piles and must include details of any mitigation measures to be employed.

*(34) If the updated underwater noise modelling referred to in sub-paragraph (23) above demonstrates that noise levels above 135 **decibel** dB from any piling area within the [DBS East/West array area] will impact the area shoreward of the Herring Spawning Noise Restriction Boundary during the herring spawning season then any piles located within that piling area must not be installed during the herring spawning season without written approval from the MMO, ~~which may be subject to reasonable conditions.~~*

*(5) Any piling activity within the [DBS East/West array area] during the herring spawning season must be undertaken in accordance with the approved herring spawning piling restriction plan **approved under sub-paragraph (1)** or in accordance with any approval given by the MMO under sub-paragraph (34) above.*

(6) In this condition-

*“Herring Spawning Noise Restriction Boundary” means the boundary indicated by the red line on the **outline** herring spawning plan, with the restricted area being the area shoreward of this boundary*

“herring spawning plan” means the document certified by the Secretary of State as the herring spawning plan for the purposes of the Order under article 42 (certification of plans and documents, etc.) and referenced in Schedule 19 (documents to be certified)

“herring spawning season” means 1 August to 31 October inclusive or such other period as agreed in writing with the MMO;

“piling area” means any area within the [DBS East/DBS West] array area within which one or more piled foundations is proposed to be installed;”

1.12 Without prejudice export cable restriction condition

1.12.1 The Applicant proposed a condition to the MMO for review, and we have responded with the following updates. Noting that there may be minor updates required at Deadline 8, but the MMO will liaise with the Applicant as soon as possible on these so a joint position can be provided at Deadline 8. The MMO also understands this condition has been agreed with Natural England (NE).

“27.—(1) The cable installation works listed at sub-paragraphs (a) – (f) below must not be undertaken on the seabed within the restricted area during the restricted period, unless otherwise agreed in writing by the MMO:

- (a) pre-sweeping;*
- (b) dredging;*
- (c) mechanical ploughing;*
- (d) cutting;*
- (e) water jetting; and*
- (f) cable burial operations.*

*(2) No later than sixteen weeks (or such other period as agreed by the MMO in writing) prior to the commencement of any licensed activities **in sub-paragraph (1), a the Back Calculation***

Technical Report, which must include details of the restricted period, must be submitted to the MMO for approval.

(3) The licensed activities must not commence until the MMO has approved the Back Calculation Technical Report.

(4) In this condition-

“Back Calculation Technical Report” means an updated version of environmental statement Appendix 10-3, which must include evidence to support the restricted period;

“cable installation works restricted area plan” means the plan certified by the Secretary of State as the cable installation works restricted area plan for the purposes of the Order under article 42 (certification of plans and documents, etc.) and referenced in Schedule 19 (documents to be certified);

“restricted area” means the area of seabed between KP20 and KP40 as shown on the cable installation works restricted area plan”;

“restricted period” means 1 August to 31 October inclusive or such other period indicated by the Back Calculation Technical Report as the period when herring are most likely to have spawned and where eggs and newly hatched larvae should be undisturbed to avoid any adverse impacts to those eggs or larvae and any such alternative period must be agreed with the MMO in writing.”

2. Comments on Applicant’s amended application Documents

2.1 In Principle Monitoring Plan (REP5-028)

2.1.1 The MMO is largely content with the updates in on adaptive management in Section 1.4 of the document. The MMO’s position is to include the adaptive management condition. However, on a without prejudice basis the MMO is content that a process on adaptive management is within the plan to make it a proactive action on the Applicants should there be greater impacts than what was predicted in the Environmental Statement. This will be a not agreed but no material impact position in the Statement of Common Ground and a matter of the SoS to decide whether to include the condition. The MMO notes that the ExA has requested updates on this matter in Table 1 below and welcomes this.

2.1.2 The MMO also requests updates in relation to our comments in Section 3.1.3 in our Deadline 6 response (REP6-069).

2.2 Illustrative Underwater Noise Reduction Technical Note (REP5-032)

2.2.1 REP5-032 provides a purely illustrative demonstration of the potential reduction in impact ranges if primary and/or secondary measures implemented at the Projects are utilised which resulted in a 10dB reduction in sound levels. This is a positive first step in understanding how the range of impact from UWN is reduced using secondary mitigation measures but does not constitute sufficient evidence to remove the requested piling restriction without the Applicants making a binding commitment to ensure that noise level reductions of 10 dB are achieved. Please see Section 7, Table

1, Part2, 15(1)(g) for more information.

- 2.2.2 Table 2-1 of Section 2.2 Secondary Noise Reduction presents a table of various noise abatement measures along with the noise reduction in sound exposure level (SEL) (in dB) that each measure could achieve. The Applicants state that this “*shows that the majority of NAS would be expected to achieve a 10dB reduction or greater*”. However, the noise reductions for each measure are presented as a range, and the range of achievable noise reductions for big bubble curtains (BBC) and double big bubble curtains (DBBC) begin at -7 dB and -8 dB respectively. The level and efficacy of the reduction achieved by each system will vary depending on site specific environmental conditions, including water depth.
- 2.2.3 During the ES consultations, the Applicants outlined the worst-case piling scenarios for the development of DBS East and West OWFs in isolation and together. The Applicants have restated in this technical note that, for the purpose of providing possible noise reduction modelling, the worst-case piling scenario of simultaneous monopiling at two locations was used. This is appropriate as this scenario represents the maximum spatial extent scenario, which the MMO agrees is the appropriate scenario to use for assessing UWN impact ranges relative to the herring spawning ground at Flamborough Head.
- 2.2.4 The Applicants have provided two figures; Figure 3.1 presents the UWN impact range noise contours associated with monopiling at the DBS West north location, and the DBS East south location, with and without a 10 dB reduction. This figure shows the UWN impact ranges for all physiological effects (Temporary Threshold Shifts (TTS), recoverable injury, mortality) to be greatly reduced, as well as showing the impact range for behavioural effects to be reduced also. The UWN contour depicting the range of behavioural effects based on the 135 dB SEL single strike (ss) threshold shows that the noise contour no longer overlaps with the areas of the herring spawning ground which have the highest confidence scores, however there is still some overlap with area of the herring spawning ground which have a confidence score of 0.04 – 0.8, which the MMO still considers this represents medium-high confidence for potential herring spawning habitat. Nonetheless, this modelling is encouraging.
- 2.2.5 As outlined above, as far as the MMO is aware, the Applicants have not yet committed to achieving a noise reduction level of 10 dB. Providing that the Applicants are able to commit to achieving a minimum noise reduction of 10 dB using primary measures (changes to foundation type, hammer energy etc.), *and* secondary measures (i.e. noise abatement systems), then it *may* be possible to remove the recommended piling restriction during the herring spawning season. However, the Applicants should be clear on their choice of noise abatement systems and what the minimum achievable noise reduction level is for each system based on the site-specific conditions of the DBS OWFs project site.
- 2.2.6 Until the specific details of the Applicants noise reduction plan are provided, the MMO must request that the current recommended restriction on piling activity during the herring spawning season (1 August – 31 October inclusive) be maintained, until the Applicants are able to clearly demonstrate that a 10 dB noise reduction can be achieved through primary and secondary noise measures. It is acceptable for this information to be provided after the consenting process is completed, as the project design envelope and piling parameters will not be finalised until post-consent and so the Applicant may not yet know whether a 10 dB noise reduction can be achieved through primary measures alone or through a combination of primary and secondary

measures, or which noise abatement systems will be required. Only once this additional technical note has been provided demonstrating how the proposed 10 dB noise reduction will be achieved, can the requested restriction on piling activities during the herring spawning season be fully removed.

- 2.2.7 Whilst the information in REP5-032 and REP5-042 is helpful in understanding what the range of impact from UWN caused by piling would be with a 10 dB noise reduction, the modelling presented does not represent a commitment by the Applicants to implement measures which achieve this. As outlined above, the requested temporal restriction on piling activity during the herring spawning season must be maintained until an appropriate commitment to achieving a 10 dB noise reduction is made by the Applicants.
- 2.2.8 If the Applicant can make a clear and binding commitment to reducing noise emissions from piling by a minimum of 10 dB and provide a detailed technical note post-consent demonstrating how this noise reduction will be achieved through primary and secondary measures, then the MMO believes this issue can be considered as resolved. At this stage, the MMO does not believe that the proposed restriction on piling activities during the herring spawning season can be removed.

2.3 15.8 Modelling of underwater noise associated with alternative piling locations to inform potential impacts on Atlantic herring spawning grounds (REP5-042)

- 2.3.1 Please note that the MMO and our scientific advisors are reviewing documents both submitted into examination and via joint meetings or emails from the Applicant as fast as possible. For ExA awareness, the MMO is providing all available comments in our deadline responses, but the positions are rapidly changing and some of the comments will likely be superseded at the next deadline due to the ability to review and provide responses in the time to submit these to the ExA. The MMO is hoping that Deadline 8 will have the final agreed position from both parties and will highlight any areas of disagreement and what would be required to resolve this.
- 2.3.2 The MMO has not raised any concerns specifically with the modelling locations used by the Applicants relative to the herring spawning ground at Flamborough Head and considers that the worst-case piling locations with respect to impacts to herring, should be those closest to the herring spawning ground. It is explained in Section 1 of REP5-042 that the purpose of this document is to provide an alternative modelling scenario relative to the herring spawning ground which has been requested by Natural England (NE) in their comments to the Applicant.
- 2.3.3 It is the MMO's understand when reviewing the ES for the DBS OWFs (Chapter 10 Fish and Shellfish Ecology [APP-091]) that the two modelling locations used were suitable for demonstrating the range of impact from UWN on fish, particularly with regard to the herring spawning ground at Flamborough Head. The modelling locations used in the ES were the DBS East: south location and the DBS West: west location. This updated modelling report provides additional modelling for alternative piling locations at DBS East: south location (no change) and DBS West: south-west location. In addition, the revised modelling also presents the predicted impact ranges for piling at the alternative locations when using noise abatement systems (NAS) which equate to a 10 decibel (dB) noise reduction.
- 2.3.4 The Applicants state that "The exact mitigation to be used and the final piling parameters have not been confirmed, but for the purpose of his alternative modelling, a flat broadband 10dB noise reduction has been applied at source (based on generic

data for a bubble curtain from Verfuss et al. 2019) to the maximum design scenario for monopiles at the two modelling locations”. The Applicants should note that a commitment to a minimum achievable noise reduction must be made before ongoing concerns around the range of effect on herring at the Flamborough Head spawning ground can be resolved. In Document REP5-042, the Applicants have applied a standalone 10 dB noise reduction value based on a single mitigation measure being applied (a generic bubble curtain).

- 2.3.5 In reviewing Figure 2.1 and 2.2 of Document 15.8, the MMO agrees with the Applicants conclusion that amending the DBS West modelling location does not appear to significantly change the impact ranges for physiological effects (as per Popper et al., 2014) with respect to the herring spawning ground. Figure 2.1 does show that amending the DBS West modelling location produces a larger overlap for behavioural effects (as per Hawkins et al., 2014). The additional UWN contour for behavioural effects shows a greater overlap with areas of higher potential spawning habitat than shown by the original modelling location, due to the amended modelling location being further south than the original. This has been acknowledged by the Applicants, and the area of overlap has been quantified as increasing from an UWN overlap of 14.38% with higher potential Atlantic herring spawning habitat (< 0.05 confidence) originally, to an overlap of 30.41% with higher potential spawning habitat.
- 2.3.6 Figure 2.3 shows the same modelling presented in Figure 2.1 with a 10 dB noise reduction applied (based on the use of a generic bubble curtain). The MMO generally agrees with the Applicants statement that *“when considering a 10 dB reduction as a result of the implementation of UWN mitigation, changes in overlap with higher (<0.05) suitability Atlantic herring spawning grounds are greatly reduced, with no overlap of these areas occurring in either the worst case or alternative modelled piling locations for any threshold considered”*. This is very positive. However, as far as the MMO is aware, the Applicant has not explicitly made a formal commitment to implement mitigation measures to achieve a 10 dB noise reduction. Therefore, this modelling can only be considered an indication of what noise reduction might be possible and is not sufficient to remove the recommended temporal restriction on piling and UXO detonation activities as set out in Section 1.11 of this document. If the Applicants make a clear and definite commitment to implement mitigation measures which achieve a minimum 10 dB noise reduction, then there is potential (based on the modelling shown in Figure 2.3 which illustrates a 10 dB noise reduction) that a temporal restriction on piling activities may not be required. However, until such a commitment is made, the MMO must maintain that it is necessary that a temporal restriction on all piling and UXO clearance activities during the Banks herring spawning season (1 August – 31 October inclusive) must be on the face of the DML. Please see Section 7, Table 1, Part2, 15(1)(g) for more information.

3. Response to the Examining Authority’s Written Questions (ExQ2) – (PD-022)

3.1 FSE.2.4

Please provide the MMO’s opinion on the applicants’ use and comparison of Figure 1-2 and Figure 2-2 described above and their relevance to areas of medium and high potential herring spawning areas.

- 3.1.1 Figure 2-1 of the Applicant’s Heat Mapping Report shows a ‘heat’ map of potential

spawning habitat for Atlantic Herring in the vicinity of Dogger Bank South OWF based on the heat mapping methodology described by Kyle-Henny *et al.*, 2024. The MMO previously stated that Figure 2.1 showed a degree of overlap in the northeastern extent of the potential spawning habitat for the effects of temporary threshold shift (TTS) as a result of piling activities at the DBS array. Figure 2.1 shows that the underwater noise (UWN) contour for TTS overlaps an area of potential spawning habitat where the confidence level is high to medium (0.06 – 0.1) for potential spawning habitat. Figure 2.1 also shows that the UWN contour for behavioural effects overlaps a large area of potential spawning habitat where the confidence level is generally high to very high (0.03 – 0.08), with areas of medium (0.08 – 0.1) confidence for potential spawning habitat.

- 3.1.2 It should be noted that in the Kyle-Henny *et al.*, 2024 updated ‘heat’ mapping method, levels of ‘heat’ reflect the level of confidence in the underlying data layers to represent potential spawning habitat (i.e., high confidence level = higher level of certainty that the area of seabed is suitable as potential spawning habitat, and therefore a higher likelihood that herring would be spawning in that area). However, this ‘heat’ map presentation does not provide an indication of herring spawning *intensity*, as the relevant International Herring Larval Survey (IHLS) data that has been incorporated into the ‘heat’ map is included as a single value layer to reflect the maximum *extent* of the active herring spawning ground (therefore areas of higher or lower spawning activity are not provided in a ‘heat’ map presentation). All ‘heat’ map presentations must therefore be considered alongside IHLS larval abundance data which shows areas of higher and lower spawning activity taken from the larval abundance values at IHLS sampling stations across the spawning ground. These data should be presented as annual maps showing the herring larval abundances for each year of data used in the assessment. The MMO notes the Applicants provided these annual larval abundance maps, and the MMO provided comments on these in REP6-069.
- 3.1.3 Figure 2-2 from the Applicant’s Heat Mapping Report (AS-105) shows the extent of sediment types classified as having ‘preferred’ and ‘marginal’ suitability as potential spawning habitat for Atlantic Herring. These data are taken from the EMODnet 1:250k seabed sediment data layer which is classified according to the Folk (1954) classification system. In Figure 2-2, ‘preferred’ sediments include those areas of seabed where sediment sampling has classified the sediment composition as being Gravel or sandy Gravel according to the Folk categories, and ‘marginal’ sediments include those areas of seabed where sediment composition has classified as gravelly Sand according to the Folk categories. This data presentation is important for generating the ‘heat’ map as the EMODnet sediment source data can be filtered so that only those sediments with sufficient composition to support herring spawning (Gravel, sandy Gravel and gravelly Sand) are included in the map.

It should be noted, and indeed this is noted in the Kyle-Henny *et al.*, 2024 updated heat mapping method, that the Folk (1958) classification categories are quite broad and so although a sediment sample may be classified as ‘gravel’ owing to the sediment being composed of predominantly gravelly particles, the sample may also contain a proportion of sand or fine (mud) particles. The sediment preferences for herring are outlined in Reach *et al.*, (2013) and were used to inform the Kyle-Henny *et al.*, 2024 updated ‘heat’ mapping methodology.

- 3.1.4 With regards to Figure 2-2 of the Applicant’s Heat Mapping Report [AS-105], this figure shows the spatial extent and distribution of ‘preferred’ and ‘marginal’ sediments with respect to herring. This information can be used for two purposes. The first is that

seeing the individual layers which feed into the 'heat' map output is helpful for determining which layers are contributing to the 'heat' value being seen. In the Kyle-Henny *et al.*, 2023 updated 'heat' mapping methodology 'preferred' sediments are scored more highly than 'marginal' sediments and this is reflected in the final 'heat' map output.

The second purpose is that knowing where 'preferred' sediments are located helps to inform spatial refinement of restrictions where activities interact directly with the seabed (i.e., cable laying works rather than UWN). For example, Figure 2-2 shows that preferred sediments occur between the landing site to somewhere between kilometre points (KP) 30 and 40 of the DBS export cable route, and that 'marginal' sediments are present from between KP 30-40. Spatial refinement of activities which interact directly with the seabed should also be accompanied by particle size analyses (PSA) of sediment samples taken directly from the area of interest. PSA data provides clear compositional information of the sediment type by determining the % of the sample composed of gravels, sands and fines. The Applicants have provided these data for the DBS export cable route in the Heat Mapping Report [AS-105].

- 3.1.5 The MMO has considered the ECC PSA data alongside the annual herring larval abundance maps provided recently by the Applicant and have provided updated comments in REP6-069.

3.2 FSE.2.7

Worst-case piling locations for herring: In responses to questions on this topic at ISH5 [EV10-006] the applicants stated moving the worst-case location modelling location to the south-west corner might move the noise contours further south, so they overlapped less with the preferred substrates to the north on Figure 2-2 [AS-105]. This is based on the assumption that the worst-case noise modelling to produce contours for Figure 2-1 and Figure 2-2 is restricted to two locations only. Should the worst-case noise contour envelopes not be derived from all three locations, the two locations originally modelled and the additional modelling using the south-west location of the array area to produce the worst-case noise envelope contours?

- 3.2.1 The MMO has not raised any concerns specifically with the modelling locations used by the Applicants thus far and consider that the worst-case piling locations with respect to impacts to herring, should be those closest to the herring spawning ground. The MMO believes the two modelling locations used are suitable for demonstrating the range of impact from UWN, but it would not be detrimental to see the noise contours for all three locations. The MMO is currently reviewing further information provided by the Applicant and will provide further advice should the position change.

3.3 FSE.2.9

Export cable proposed through the Flamborough Head herring spawning ground: The ExA is aware of the questions and responses between the applicants and the MMO regarding herring larval abundance mapping and presentation of the density data. Can you confirm if this issue has now been resolved and if it is satisfied with the quality and presentation of the data regarding herring larval abundance and density submitted into the examination by the applicants at DL4 [REP4-098]. If not, please explain why not.

- 3.3.1 In summary, from the data presented in Figures 2-1 to 2-14 of The Applicants' Fish and Shellfish Response to the MMO (REP4-098), the MMO generally agrees with the

Applicant's conclusion that there are no stations along the ECC where larval abundance have exceeded >1,200 larvae per metre squared (m²). However, it should be recognised that the additional abundance category 601 – 1200 larvae per m² still represents very high larval abundance, and the data do still show that there have been several years where medium to very high larval abundances have been recorded within the ECC. These points appear to be located between KP 20-30 and KP 50-60, as well as to the north-west and south-east of KP 40. The section of the ECC between KP 20-40 approximately aligns with sediment sampling stations ST162 and ST161 where PSA found the sediment composition to be preferred (ST162) and marginal (ST161) for herring spawning. Further, EMODnet broadscale seabed sediment data shows that the sediments between the landfall site and KP 40 are a mixture of sediments with 'preferred' (gravel and sandy gravel) and 'marginal' (gravelly sand) composition to provide potential herring spawning habitat (see answer to FSE 2.4 for overview of 'preferred' and 'marginal' sediments). High larval abundances are also shown as occurring between KP5 50-60, however this area of the ECC does not correspond have overlying areas of suitable spawning habitat (as indicated by PSA of the sediments present in this section). The presence of herring larvae between KP 50-60 may be a result of larvae drifting from areas of nearby suitable spawning habitat.

3.3.2 Based on this suite of evidence provided, the MMO considers that the area of seabed along the ECC between KP 20 and KP 40 is a high value herring spawning habitat and should remain undisturbed during the full Banks herring spawning season (1 August – 31 October inclusive). The MMO also recognises that the PSA analyses for the ECC shows that almost all the sample stations between ST 161 (located after KP 40) and the DBS array area are mostly sandy sediments and are therefore unsuitable as potential herring spawning habitat. For this reason, the MMO does not believe that the requested restriction on cable works needs to be extended along the entire length of the ECC. During a discussion held between the MMO, Cefas Fisheries Advisors and the Applicant on 6 June 2025, it was agreed that PSA data along the ECC beyond KP 40 was unsuitable as herring spawning habitat. Since the impacts of concern regarding herring spawning habitat that arise from the construction of the ECC relate to habitat disturbance and increased suspended sediment concentrations (SSC), the MMO is content that if habitat is unsuitable then mitigation in areas beyond KP 40 towards the DBS array are not required as the sediments are unsuitable and therefore there is no risk to the habitat. Hence it was agreed to reduce the spatial element of the restriction to KP 20 - KP 40.

3.3.3 The MMO is satisfied with the quality of the data provided and have updated the recommended restriction on cable laying works within the ECC to be as follows:

It is necessary for a temporal restriction to be placed on works which interact with the seabed along the DBS ECC route (including seabed preparatory works, cable trenching etc) between Kilometre Points 20 – 40, during the Banks herring spawning season (1 August – 31 October inclusive).

3.3.4 The ExA and the Applicants should still note that the evidence provided allows for the recommended restriction to be spatially refined however the temporal extent of the recommended restriction on cable works along the ECC remains the same (1 August – 31 October inclusive). Until the results of the Applicant's 'peak' herring spawning period back-calculation exercise is complete. The MMO is currently reviewing the back calculation document and will provide a response at Deadline 8. Please see the

comments on the restriction Conditions in Section 1.11 of this response.

3.4 MCP.2.10 - Cable protection licensing

Noting the applicants' response in relation to cable protection licensing at ISH5 [REP4-086, paragraph 257], do you consider a change in the lengths to the proposed licensing period from the applicants' proposed 10 years for new cable protection on designated sites could be more appropriate? If yes, explain the suggested lengths and why? In addition, the response states that 'any replenishment would occur on 'lost' habitat so there is no real risk of new harm to licence in this scenario'. However, if there is a period of up to 10 years of no or limited interaction, what are the possibilities of the habitat being restored during that time?

3.4.1 Please see Section 7, table 1, Part 2, 7(2)(g) and 7(7)(8) with regards to cable protection.

4. Comments on Report on the Implications for European Sites (RIES) (PD-025)

4.1 RIES Q28:

Please confirm whether you are satisfied with the updates made by the applicants to the dDML conditions [REP5-002], to include wording suggested by the MMO on noise reduction in [REP4-115]. NE is also requested to confirm whether these updates change its DL5 position that an AEol cannot be excluded for grey seal of BNNC SAC (alone and in-combination), grey seal of the Humber Estuary SAC (in-combination) and harbour porpoise of the SNS SAC (in-combination).

4.1.1 Please see section 1.10 and 1.11 for further comments on noise related conditions, the position has moved on further since the comments raised in section 3.5.7 of REP4-115.

5. Comments on the Examining Authority's Rule 17 Requests for Further Information (PD-027)

5.1 17.4 - Applicants' environmental statement conclusions for marine physical environment

The Examining Authority (ExA) notes your disagreement with the applicants' updated impact and cumulative effects assessment of the Flamborough Front at deadline 5 [REP5-050]. Please confirm whether you agree with all the other applicants' ES conclusions detailed in Table 8-67 of ES Chapter 8 [APP-080], and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141] and Assessment of Coastal Processes at the Dogger Bank South Landfall [REP5-040]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.

5.1.1 The MMO notes the Applicant is due to submit updates to is to the ES chapters for Deadline 7 in relation to the information provided at Deadline 5 and will provide a

response at Deadline 8.

5.2 17.5 - Applicants' environmental statement conclusions for benthic ecology

Confirm whether you agree with the applicants' ES conclusions in Table 9-27 of ES Chapter 9 [APP-089] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.

5.2.1 The MMO notes the Applicant is due to submit updates to the ES chapters for Deadline 7 and will provide a response at Deadline 8. At this stage the MMO has no outstanding concerns on benthic ecology.

5.3 17.6 - Applicants' environmental statement conclusions for fish and shellfish ecology

Confirm whether you agree with the applicants' ES conclusions in Table 10-35 of ES Chapter 10 [APP-091] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.

5.3.1 The MMO notes the Applicant is due to submit updates to the ES chapters for Deadline 7 and will provide a response at Deadline 8.

5.4 17.7 - Applicants' environmental statement conclusions for marine mammals

Confirm which of the applicants' ES conclusions in Table 11-12 of ES Chapter 11 [APP-095] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141] you are in agreement with and which you disagree with. In addition to those mentioned above, if in disagreement, if possible, include a cross reference to your submissions which explain why.

5.4.1 The MMO notes the Applicant is due to submit updates to the ES chapters for Deadline 7 and will provide a response at Deadline 8. The MMO has no outstanding comments in relation to the conclusions and defers to NE on some of the details in relation to marine protected areas.

5.5 17.9 - Wildlife licence

You stated at deadline 4 that as a wildlife licence would be required, the applicants would be required to demonstrate that noise abatement has been secured, and where this has not been possible, justification must be provided [REP4-115 page 12]. Please confirm whether at present, there are any known impediments to the necessary wildlife licence being issued. Please also include a statement on this in your final comments to be submitted at deadline 8.

5.5.1 At this time there are no known impediments to a wildlife licence being issued. The MMO does not predetermine a wildlife licence, and each wildlife licence is reviewed and assessed on a case-by-case basis when the application is submitted.

6. Remaining DCO/DML comments not agreed with applicant

6.1 Topics which the MMO and the Applicant have an agree to disagree position and these will not be resolved by the end of examination:

- 6.1.1 Transfer of Benefit – Article 5 – The MMO still maintains that reference to the DML's Article 5 should be removed. Please see Section 1.2 of REP2-061 for more information.
- 6.1.2 Force Majeure - The MMO notes this is likely to be not agreed by the end of Examination. The MMO's position is detailed in REP2-061 Section 1.3
- 6.1.3 Determination dates - Please see section 1.7 above. The MMO notes this will be a likely agree to disagree in relation to condition 17(2).

6.2 Topics which the MMO hopes will be resolved before the end of examination

Disposal sites

- 6.2.1 Please see section 1.3 above.

Noise monitoring and adaptive management

- 6.2.2 Table 1, rows 89, 90 and 94 in REP5-049 for the MMO's position on noise monitoring and adaptive management.
- 6.2.3 Please see section 1.11 and 1.12 and Section 2.2 and 2.3 above and Table 1 below in relation to the outstanding issues.

6.3 Topics that have been resolved since Deadline 6

Chemicals

- 6.3.1 Please see section 1.4 above

Notification periods

- 6.3.2 Please see section 1.9 above

7. The MMO comments on the ExA's schedule of recommended amendments to the Applicant's draft DCO (PD-028)

7.1 General Comments

7.1.1 The MMO has provided comments on this document noting that further discussions have taken place with the Applicants and NE in relation to noise conditions and the MMO has provided comments accordingly.

7.2 Table 1 – MMO comments on the ExA's schedule of recommended amendments (PD-028)

Reference	Text as set out in the draft DCO	ExA's recommended amendment/insertion	Reasons and notes	MMO Comments
ARTICLES				
2	“undertaker” means, subject to article 5 (<i>benefit of Order</i>),— (a) for the purposes of constructing, maintaining and operating the DBS East works and any related ancillary works, DBSEL; (b) for the purposes of constructing, maintaining and operating the DBS West works and any related ancillary works, DBSWL; and (c) in any other case, DBSEL and DBSWL;	“undertaker” means, subject to article 5 (<i>benefit of Order</i>),— (a) for the purposes of constructing, maintaining, and operating and decommissioning the DBS East works and any related ancillary works, DBSEL; (b) for the purposes of constructing, maintaining, and operating and decommissioning the DBS West works and any related ancillary works, DBSWL; and (c) in any other case, DBSEL and DBSWL;	To provide clarity and ensure consistency where definition is used within the requirements in relation to decommissioning.	The MMO welcomes the ExA's recommendations.
Schedule 2 – Requirements (R)				
R 1	1. —(1) The DBS East Project must commence no later than the expiration of seven years beginning with the date this Order comes into force. (2) The DBS West Project	1. —(1) The DBS East Project must commence no later than the expiration of five seven years beginning with the date this Order comes into force. (2) The DBS West Project must commence no later than the expiration of five seven years beginning with the date this Order	Considering the case presented by the applicants with regard to the importance of the proposed development to the delivery of identified government targets, the ExA considers that the seven-year commencement period proposed by	The MMO has no concerns with the updated wording.

	must commence no later than the expiration of seven years beginning with the date this Order comes into force.	comes into force.	the applicants to be excessive. Moreover, the ExA sees no reason why either or both projects cannot reasonable be commenced within a shorter timeframe.	
R 4	4.—(2) The dimensions of any offshore converter platform (excluding helidecks, lightning protection, towers, masts and cranes) must not exceed:— (a) 125 metres in length; (b) 100 metres in width; or (c) 105 metres in height above LAT.	(2) The dimensions of any offshore converter platform and offshore accommodation platform (excluding helidecks, lightning protection, towers, masts and cranes) must not exceed:— (a) 125 metres in length; (b) 100 metres in width; or (c) 105 metres in height above LAT.	For clarity and to ensure that full details are provided.	The MMO has no concerns with the updated wording.
R 5	5.—(1) Offshore converter platforms and offshore accommodation platform foundations must be of one or more of the following foundation options: piled monopile, or piled jacket.	5.—(1) Offshore converter platforms and offshore accommodation platform foundations must be of one or more of the following foundation options: piled monopile, and/or piled jacket. -	For clarity and consistency with other requirements.	The MMO has no concerns with the updated wording.
Schedule 10 – Deemed Marine Licence (DML) 1				
Part 1, 1(1)		“European marine designated sites with benthic habitats as qualifying features” means a site protected by the 2017 Regulations with benthic habitats as qualifying features.		The MMO welcomes the ExA’s recommendations.
Part 2, 7(2)(g)	(g) Cable protection replenishment;	(g) Cable protection replenishment outside European marine designated sites with benthic habitats as qualifying features for a maximum period of ten years post construction; (h) Cable repairs and replacement; (i) Access ladder and boat landing replacement;	NE’s standard advice is that cable protection should only be deployed for a maximum period of 10 years from the commencement of operations outside of designated sites. The ExA is currently persuaded that it is prudent at this stage to include	The MMO welcomes the ExA’s recommendations.

		(j) Wind turbine generator and offshore accommodation platform anode replacement; and (k) J-tube repair/replacement.	this in line with previously made DCOs.	
Part 2, 7(7)(8)	n/a	7. —(7) No cable protection can be replenished within European marine designated sites with benthic habitats as qualifying features unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body and the Maritime and Coastguard Agency. (8) The undertaker is not required to comply with sub-paragraph (7) in a case of emergency.”	NE's Risk and issue log at deadline 6, point A15/A19 [REP6-077] continues to state a significant disagreement on the issue of cable protection replenishment within designated sites for benthic features. Within any designated sites for benthic features, such as the Dogger Bank SAC, NE states the condition should stipulate that there should be no deployment of cable protection after the completion of construction. The ExA therefore considers the revised wording would allow the relevant statutory nature conservation body to have the necessary degree of oversight of any cable protection replenishment required within designated sites from a safety perspective and has therefore included the need for the Maritime and Coastguard Agency to be consulted.	<p>The MMO's current position is that no new cable protection will be placed within Marine Protected Areas (MPAs) with benthic features after construction.</p> <p>The MMO understands that this condition would allow cable protection to be replenished within the operation phase. The MMO further understands that this replenishment could only be within the footprint and volume of what was placed at the time of construction.</p> <p>The MMO would like to ask for confirmation on the wording in relation to replenishment – in what instances would replenishment be required? Is this just another term for maintenance? For example, when a cable repair is required and the protection is removed then replaced? Or would there be any occasions when the cable protection placed during construction would move/disappear and need replenished? If so the MMO would question if this has been</p>

				<p>assessed and under what circumstances would this happen?</p> <p>The MMO notes NE's position that even replenishment of cable protection after construction in benthic MPAs would require a new marine licence as there would be a likely significant effect and an appropriate assessment would need to be undertaken for each instance of cable protection replenishment.</p> <p>The MMO believes that if this is included within the DML and the consent then the HRA as part of the decision would need to consider the full amount of cable protection that could be placed within the Dogger Bank SAC and that consideration of compensation should be undertaken and included within a compensation schedule for the Dogger Bank SAC. However, the MMO understands that NE's position is that the amount of cable protection assessed is consented is for construction only, once they've placed it in position and discharged the relevant conditions that consented figure cannot be utilised as this has been reduced as part of the project design.</p>
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				<p>The MMO believes that with the inclusion of this condition, the wording allows for protection to be placed within the Dogger Bank SAC with approval of the MMO after consultation. The MMO has concerns that this would put the MMO in a difficult position post consent. The MMO <i>does</i> review the decision HRA when discharging conditions in the post consent stage. However, if it is deemed that a new assessment is required under the regulations the MMO can undertake a habitats regulation assessment at the discharging stage. The MMO does not believe that this should be standard for every discharge of a condition and a new assessment should only be conducted if new evidence is presented in relation to an MPA.</p> <p>If an addendum to the HRA were required and compensation had to be discussed and agreed at the discharging stage, the MMO notes that this could severely impact on the Project's programme. Although the MMO has the power to do this as part of the condition discharge process the MMO believes, and would stress, that compensation is a decision for the SoS at the</p>
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				<p>consenting stage and not something that should be reviewed and decided on at the post consent stage unless this is as part of a new marine licence so the environment and information provided by the Applicant is as up to date as possible to ensure there is no AEol.</p> <p>The MMO believes as this is a major concern from NE that a new marine licence should be applied for in the instance that cable protection is required.</p>
Part 2 Condition 15. —(1)	<p>(c) a construction method statement (in accordance with the cable statement), including details of—</p> <p>(i) cable burial, specification, installation and monitoring to include—</p> <p>...</p> <p>(vii) associated ancillary works; and</p> <p>(viii) guard vessels to be employed;</p>	<p>(c) a construction method statement (in accordance with the cable statement), including details of—</p> <p>(i) cable burial, specification, installation and monitoring to include—</p> <p>...</p> <p>(vii) associated ancillary works; and</p> <p>(viii) guard vessels to be employed;</p> <p>and</p> <p>(ix) arrangements for crossing and proximity agreements to be put in place with existing subsea pipelines and cable operators, and gas block (UKCS Block) operators;</p>	<p>Crossing and proximity agreements are proposed as the main form of mitigation to reduce the significance of effects to other offshore users and should be captured by the dDCO to ensure that the proposed development would not result in greater effects than those set out in the ES.</p>	<p>The MMO will review the Applicants response to this update and requests confirmation that this would just be the actual arrangements and agreements and that no decision on the parties working together would have to be decided on by the MMO. The MMO believes that notification of these agreements is welcomed but does not believe it is our remit to manage these arrangements, and this should be done though separate provisions.</p>
Part 2, 15(1)(c)(i)	<p>(bb) a detailed cable laying plan for the authorised scheme, incorporating a detailed burial risk</p>	<p>(bb) a detailed cable laying plan for the authorised scheme, incorporating a detailed burial risk assessment encompassing the identification of any cable protection that</p>	<p>The wording has been added in response to NE's deadline 6 response [REP6-072] advising that if cable protection would be required</p>	<p>The MMO welcomes the ExA's recommendation, however, would like further amendments in relation to this point to ensure it</p>

	<p>assessment encompassing the identification of any cable protection that exceeds 5 percent of navigable depth referenced to Chart Datum and, in the event that any area of cable protection exceeding 5 percent of navigable depth is identified, details of any steps (to be determined following consultation with the MCA and Trinity House) to be taken to ensure existing and future safe navigation is not compromised or similar such assessment to ascertain suitable burial depths and cable laying techniques, including cable protection; and</p>	<p>exceeds 5 percent of navigable depth referenced to Chart Datum and, in the event that any area of cable protection exceeding 5 percent of navigable depth is identified, details of any steps (to be determined following consultation with the MCA, and Trinity House and the MMO in consultation with the statutory nature conservation body) to be taken to ensure existing and future safe navigation is not compromised or similar such assessment to ascertain suitable burial depths and cable laying techniques, including cable protection; and</p>	<p>at greater heights, that this should also be agreed with the MMO in consultation with the SNBC.</p>	<p>is clear what is required from an environmental point, the parts in bold should be the updated sections.</p> <p><i>“(c) a construction method statement (in accordance with the cable statement), including details of—</i></p> <p><i>(i) cable burial, specification, installation and monitoring to include—</i></p> <p><i>(aa) the technical specification of cables below MHWS;</i></p> <p><i>(bb) a detailed cable laying plan for the authorised scheme, incorporating a detailed burial risk assessment encompassing the identification of any cable protection that exceeds 5 percent of navigable depth referenced to Chart Datum</i></p> <p>and,;</p> <p><i>(cc) In the event that any area of cable protection exceeding 5 percent of navigable depth is identified within sub-paragraph (bb), details of any steps (to be determined following consultation with the MCA, Trinity House and the MMO in consultation with the statutory nature conservation body) to be taken to ensure existing and future safe navigation and the marine environment is not compromised, including updated nearshore sediment transport modelling and comparison and</i></p>
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				<p><i>demonstration against the environmental statement if within the 10m depth contour and/or similar such assessment to ascertain suitable burial depths and cable laying techniques, including cable protection; and (cc) proposals for monitoring cables including cable protection until the authorised scheme is decommissioned which includes a risk-based approach to the management of unburied or shallow buried cables;"</i></p> <p>.</p> <p>The MMO believes that this will highlight the additional information required for the below 10m contours. The MMO has not had a chance to share these with the Applicant but has discussed these changes with NE and we believe they are content.</p>
Part 2, 15(1)(g)	(g) in the event that driven or part-driven pile foundations are proposed to be used, a marine mammal mitigation protocol (in accordance with the outline marine mammal mitigation protocol), the intention of which is to prevent injury to marine	(g) in the event that driven or part- driven pile foundations are proposed to be used, a marine mammal mitigation protocol (in accordance with the outline marine mammal mitigation protocol), the intention of which is to prevent injury to marine mammals, following current best practice as advised by the relevant statutory nature conservation bodies and which must include consideration the use of noise reduction	The ExA is currently persuaded by the preferred condition wording as advised by the MMO [REP6-069] and NE [REP6-075] which is to replace ' <i>consideration of</i> ' with ' <i>the use of</i> '. MMO and NE consider that the phrasing ' <i>consideration of</i> ' leaves ambiguity at the post consent stage that could mean no mitigation is applied post consent when this will	<p>The MMO welcomes the updated wording, however, would highlight that agreed wording between the MMO, NE and the Applicant has been proposed in Section 1.10 of this document.</p> <p>The MMO would ask if 10dB can be achieved, if not would this mean the Applicants would be in</p>

	mammals, following current best practice as advised by the relevant statutory nature conservation bodies and which must include consideration of noise reduction methods and/or, deployment of noise mitigation systems or noise abatement systems that will be utilised to manage sounds from those piling activities and such protocol must include full details and justification for the mitigation chosen or excluded for deployment;	methods and/or, deployment of noise mitigation systems or noise abatement systems that will be utilised to manage sounds from those piling activities and such protocol must include full details and justification for the mitigation chosen or excluded for deployment; the noise reduction methods employed must achieve at least a 10dB reduction in underwater noise at a frequency band approved by the MMO in consultation with the relevant statutory nature conservation body and verified by the monitoring set out in the final MMMP informed by the outline MMMP;	be required. Due to the outstanding concerns by NE at deadline 6 of AEoI for marine mammal species at the North Norfolk Coast and Wash SAC, Southern North Sea SAC and Humber Estuary SAC, but confirmation by NE that AEoI would be ruled out if the applicants confirmed the use of noise reduction methods to deliver at least a 10dB reduction in underwater noise [REP6-075] , the ExA currently considers it appropriate and reasonable to add further to the condition that at least a 10dB reduction must be achieved by the use of noise reduction systems, verified by the monitoring set out in the final MMMP informed by the outline MMMP.	breach of their licence? The MMO will review other responses to this update and may provide further comments at Deadline 8.
Part 2, 15(1)(k)	n/a	(k) Impacts of unexploded ordnance (UXO) clearance with and without additional mitigation measures will be presented in the final UXO clearance MMMP and UXO clearance Marine Licence Application;	The ExA is currently persuaded by NE's advice is that the impacts of UXO clearance with and without additional mitigation measures should be presented in the final UXO clearance MMMP and UXO clearance Marine Licence Application.	The MMO agrees with NE's comments but would question the need for this to be included within the DML when no UXOs are part of the Application and therefore the MMO believes this is not necessary. Any Marine Licence Application would require a MMMP to be submitted with additional mitigation measures or the MMO would not be able to approve the marine licence.
Part 2, 15(1)(l)	n/a	15.—(1) ... (l) No construction activities that interact	The ExA is currently persuaded by advice from the MMO [REP6-069]	Please see points 1.11 and 1.12 of this document for further

		with the seabed associated with the authorised development may be undertaken between 1 August to 31 October inclusive between Kilometre Point 20 to Kilometre Point 60, unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.	that a three month seasonal restriction is required during the Banks herring season to construction activities that interact with the seabed through the spawning ground between 1 August to 31 October inclusive so that the risk of disturbance to gravid herring engaged in spawning is negated [REP5- 049]. The MMO has advised [REP6-069] this restriction should apply between Kilometre Point 20 to Kilometre Point 60.	details on the wording on this condition which has been largely agreed between the MMO, NE and the Applicant. The Kilometre points have changed to KP20-40 instead of KP20-60 due to lack of herring spawning habitat available between KP40-60. This was updated in REP6-069.
Part 2,15(1)(m)	n/a	(m) No piling or construction activity interacting with the seabed associated with the proposed development can commence until a spawning herring construction restriction plan has been submitted to and approved by the MMO. The spawning herring construction restriction plan must include details of verified noise mitigation measures to be employed to achieve a 10dB reduction at a frequency band approved by the MMO in consultation with the relevant statutory nature conservation body and any necessary details to ensure adherence to the seasonal restriction of construction activities that interact with the seabed specified in condition 2,15(1)(l).	The ExA considers it pragmatic to follow the example of the Rampion 2 made DCO for which a condition was made for an outline spawning herring piling restriction plan upon which a final spawning herring piling restriction plan should be based. For this proposed development there are two potential aspects to potential seasonal restrictions i) related to construction activities that interact with the seabed and ii) related to underwater noise associated with piling construction activities. Therefore, the ExA considers it sensible for there to be a condition within the DMLs for an outline spawning herring construction restriction plan to address the potential effects from both these pathways.	Please see points 1.11 and 1.12 of this document for further details on the wording on this condition which has been largely agreed between the MMO, NE and the Applicant.
Part 2,16(2)(3)	(2) The SIP submitted for approval must contain a description of the	(2) The SIP submitted for approval must contain a description of the conservation objectives for the Southern North Sea	Given the outstanding concerns from NE at this stage of the examination, specifically that NE cannot at this	The MMO does agree with the inclusion of North Norfolk Coast and Wash Special Area of

	<p>conservation objectives for the Southern North Sea Special Area of Conservation ("SNS SAC") as well as any relevant management measures and it must set out the key statutory nature conservation body advice on activities within the SNS SAC relating to piling as set out within the JNCC Guidance and how this has been considered in the context of the authorised scheme.</p> <p>(3) The SIP must be submitted in writing to the MMO no later than six months prior to the commencement of piling activities.</p>	<p>Special Area of Conservation ("SNS SAC"), North Norfolk Coast and Wash Special Area of Conservation ("NNCW SAC") and the Humber Estuary SAC as well as any relevant management measures and it must set out the key statutory nature conservation body advice on activities within the SNS SAC, NNCW SAC and the Humber Estuary SAC relating to piling as set out within the JNCC Guidance and how this has been considered in the context of the authorised scheme.</p> <p>(3) The SIP must be submitted in writing to the MMO no later than six months prior and no sooner than 9 months prior to the commencement of piling activities.</p>	<p>stage rule out AEol for harbour seal at the NNCW SAC or for grey seal at the Humber Estuary SAC, the ExA considers it prudent to expand the coverage of the SIP to include these designated areas.</p> <p>The ExA is currently persuaded by suggested amendments to sub-paragraph (3) to the timing of the submission for the SIP based on continued advice from NE [REP6-077].</p>	<p>Conservation ("NNCW SAC") and the Humber Estuary SAC being included within this condition.</p> <p>The SIP document was created for a specific issued in relation to the in combination impacts to the harbour porpoise. The SNS SAC has specific thresholds which are managed post consent when the MMO and OPRED have the updated details of who would be impacting the SAC.</p> <p>Seals and the North Norfolk Coast and Wash Special Area of Conservation ("NNCW SAC") and the Humber Estuary SAC do not have specific thresholds and therefore it is not appropriate to utilise the same document to manage the Project's impacts. The MMO would question on how this would be managed post consent if there are no thresholds as such to remain below.</p> <p>The MMO does note that mitigation should be committed to at this stage and notes that with the addition of conditions set out in Section 1.10 of this document that have been largely agreed between the MMO, NE and the Applicant. The MMO understands that this has removed NE's concerns in relation to noise and</p>
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				the North Norfolk Coast and Wash Special Area of Conservation (“NNCW SAC”) and the Humber Estuary SAC and therefore this amendment is not required.
Part 2, 20(4)(a)	(4) The pre-construction surveys referred to in sub-paragraph (1) must, unless otherwise agreed in writing with the MMO, include, but not be limited to, the need to undertake— (a) a survey to determine the location, extent and composition of any habitats of principal importance, Annex 1 subtidal habitat, habitat with suitability for sandeel or surficial deposits of glacial till in the parts of the Order limits in which it is proposed to carry out construction works;	(4) The pre-construction surveys referred to in sub-paragraph (1) must, unless otherwise agreed in writing with the MMO, include, but not be limited to, the need to undertake— (a) a survey to determine the location, extent and composition of any habitats of principal importance, Annex 1 subtidal habitat, habitat with suitability for sandeel or surficial deposits of glacial till in the parts of the Order limits in which it is proposed to carry out construction works; where cable protection is proposed within habitats of principal importance, Annex 1 subtidal habitat, habitat with suitability for sandeel or superficial deposits of glacial till, a survey report must be submitted to the MMO following completion of the relevant survey to justify with evidence the need for the proposed locations and extent of any cable protection in those locations, demonstrating how the extent of cable protection has been kept to a minimum for each;	The ExA is currently persuaded by responses in NE’s deadline 6 recommendation in section ii) page 2 of Appendix C6 advice on benthic and intertidal ecology [REP6-073] and has therefore added the suggested wording to sub-paragraph (a)	The MMO will review responses to this update however would question what action the MMO would do with this information should the justification not be in line with the consultee’s advice. The MMO notes this could cause a delay to a project while all additional or required information was collected and a decision was made. The MMO believes this is for the SoS to decide on at this stage and not post consent.
Part 2, 20(4)(e)	n/a	(e) a survey of seabird densities and distributions in the study area to identify areas where impacts are likely to be	The ExA currently considers that the further surveys of seabird densities and distributions in the study area	The MMO will keep a watching brief on NE’s comments on this matter.

		particularly high. The report must include an explanation of how this additional post-consent ornithological mapping has influenced the array, size or layout to mitigate impacts as much as possible.	advocated by NE may help to identify areas where impacts are particularly high, and that might be suitable for changes to array size or layout to mitigate impacts.	
Part 2, 21(2)	(2) In the event that driven or part-driven pile foundations are proposed, such monitoring must include measurements of noise generated by the installation of the first four piled foundations of each piled foundation type to be installed unless the MMO otherwise agrees in writing.	(2) In the event that driven or part- driven pile foundations are proposed, such monitoring must include measurements of noise generated by the installation of the first four piled foundations of each piled foundation type to be installed unless the MMO otherwise agrees in writing. As part of the piling monitoring planned and undertaken, if the worst-case piles are not included in the first four piles to be monitored, then two of the worst-case piles must be monitored in addition to the first four piles and results analysed and shared with the MMO and statutory nature conservation body for validation purposes.	The ExA is currently persuaded by the MMO's current position [REP5-049] that there should be a commitment that two of the worst-case piles would be monitored, which may be after the first four piles, which would allow the predictions to be validated.	The MMO welcomes this update. The MMO notes the Applicant has raised concerns in relation to this and will continue the discussions.
Part 2, 22(3)(e)	(d) undertake post-construction vessel traffic monitoring in accordance with the outline vessel traffic monitoring plan by automatic identification system for a duration of three consecutive years following the completion of construction of the authorised project, unless otherwise agreed in writing by the MMO, with provision for a report to be submitted	(d) undertake post-construction vessel traffic monitoring in accordance with the outline vessel traffic monitoring plan by automatic identification system for a duration of three consecutive years following the completion of construction of the authorised project, unless otherwise agreed in writing by the MMO, with provision for a report to be submitted annually to the MMO, Trinity House and the MCA; and (e) undertake any marine mammal monitoring referred to in the marine mammal mitigation protocol submitted in	The ExA understands there is a significant gap in knowledge of the operational underwater noise levels of wind turbine generators of size proposed by the proposed development and that that the turbine sizes used to inform operational noise modelling are considerably smaller Appendix F5 [REP5-057] . As NE raised a concern around the adequacy of the proposed monitoring of marine mammals and validation of the effectiveness of	The MMO will keep a watching brief on responses to this update.

	<p>annually to the MMO, Trinity House and the MCA; and</p> <p>(e) undertake any marine mammal monitoring referred to in the marine mammal mitigation protocol submitted in accordance with condition 15(1)(g).</p>	<p>accordance with condition 15(1)(g), including monitoring of operational underwater noise levels along with a verification process to check they remain within those predicted within the environmental statement; and</p>	<p>mitigation which continues to be unresolved [REP6-077]. The ExA considers the additional wording may assist to resolve this issue.</p>	
Part 2, 22(3)(f)	n/a	<p>(f) undertake any monitoring necessary to validate the predictions made in the ES and HRA with respect to potential effects from indirect impacts on benthic Annex I habitats and linked receptor groups as relevant. Discussions should take place in advance with the MMO in consultation with the statutory nature conservation body on how potential indirect ecosystem impacts will be monitored and reported and written agreement on the approach to monitoring and evaluating indirect effects should be obtained from the MMO in consultation with the statutory nature conservation body before construction commences.</p>	<p>Indirect effects between different receptor groups has been a constant and significant issue throughout the examination and remains largely unresolved. NE state it is particularly important to further understand indirect effects in relation to the placement of infrastructure within Dogger Bank SAC and along the ECC where there is a potential impact pathway to Holderness Inshore MCZ. The ExA currently considers it reasonable and prudent to follow the SNCB's advice but also recognises that the approach to how this could be done needs to be discussed with the statutory nature conservation body .</p>	<p>The MMO will keep a watching brief on responses on this matter but has concerns on how this would work in practice and the timescales within the condition. The MMO also notes this is for post construction, would any pre-construction monitoring be required for comparison?</p>
Part 2, 22(5)	<p>(5) In the event that the reports provided to the MMO under sub-paragraph (4) identify a need for additional monitoring, the requirement for any additional monitoring will be agreed with the MMO in writing and implemented as</p>	<p>(5) In the event that the reports provided to the MMO under sub- paragraph (4) identify a need for additional monitoring or impacts which are unanticipated and/or in the view of the MMO in consultation with the relevant statutory nature conservation body are significantly beyond those predicted within the environmental statement, the Habitats Regulations</p>	<p>The MMO requests that a provision for adaptive management is included within construction monitoring and surveys and NE expressed a significant concern regarding the degree of adaptive management in the draft DCO in appendix J [REP3-056]. The ExA notes the additional wording on</p>	<p>The MMO welcomes this update.</p>

	agreed.	<p>Assessment, and the Marine Conservation Zone Assessment the requirement for any additional monitoring will be agreed with the MMO in writing and implemented as agreed and an adaptive management plan to reduce effects to within what was predicted within the environmental statement, the Habitats Regulations Assessment, and the Marine Conservation Zone Assessment, unless otherwise agreed by the MMO in writing in consultation with the relevant statutory nature conservation body, must be submitted alongside the monitoring reports submitted under sub-paragraph (4). This plan must be agreed by the MMO in consultation with the relevant statutory nature conservation bodies to reduce effects to an agreed suitable level for this project. Any such agreed and approved adaptive management or mitigation should be implemented and monitored in full to a timetable first agreed in writing with the MMO in consultation with the relevant statutory nature conservation body. In the event that this adaptive management or mitigation requires a separate consent, the undertaker must apply for such consent. Where a separate consent is required to undertake the agreed adaptive management or mitigation, the undertaker shall only be required to undertake the adaptive management or mitigation once the consent is granted.</p>	<p>adaptive management to Revision 4 of the In Principle Monitoring Plan [REP5- 027] does not commit the effects to be reduced to within what was predicted within the environmental statement, rather it suggests additional monitoring and further discussion with the MMO and statutory nature conservation bodies. The ExA also notes the dDCO applies adaptive management directly to aspects related to kittiwake and guillemot and razorbill implementation management plans and the ExA considers it appropriate this is extended to other receptors as has been done in other recent made DCOs for OWFs and has suggested the wording which has been accepted by the Secretary of State on other made DCOs. This would be useful to address concerns related to potential impacts to any ecological receptor and also specific concerns including, but not limited to:</p> <ul style="list-style-type: none"> • monitoring and remedial action for potential sediment blockage and repair of any breach at Spurn point • potential impacts to Holderness Inshore MCZ and Humber Estuary SAC • to provide evidence to support the use of the assumption that the bottlenose dolphin baseline 	
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			<p>distribution along the northeast English coast is the same as in Scotland.</p> <p>In the absence of a commitment by the applicants to commit to reduce effects to within what was predicted within the environmental statement in the relevant control document, the ExA currently sees no other option other than to add it to the face of the DCO.</p>	
Part 2, 29(4)	n/a	<p>(4) The ornithological monitoring plan must provide details of proposed post-construction and operational surveys, including methodologies and timings, and a proposed format, content and timings for providing post- construction and operational monitoring reports. The plan must—</p> <p>(a) specify each bird species survey objectives and explain how it will assist in informing a useful and valid comparison with the pre-construction position for each bird species and how it will enable the validation or otherwise of key predictions in the environmental statement;</p> <p>(b) have due regard to the need to undertake monitoring to determine the distribution and behaviour of each bird species within the array areas of the proposed developments and the rates of collision and avoidance of each bird species with wind turbine generators within the array areas; and</p> <p>(c) ensure that the outcome of the</p>	<p>The ExA considers it prudent to insert the following conditions based on other recently made DCOs, particularly in light of NE's extensive comments on the proposed ornithological monitoring in Table 1 of Appendix J [REP3-056] for which NE's Risk and Issue log [REP6-077] point A12/A15 continues to indicate that these concerns are not fully resolved.</p>	<p>The MMO will maintain a watching brief on the response to this update.</p> <p>The MMO notes that Natural England should be updated to SNCB.</p>

		<p>agreed surveys together with existing data and reports are drawn together to present a valid statement of the post- construction and operational position, with any limitations, and must make clear what pre- construction comparison is intended and the justification for this.</p> <p>(5) The undertaker must carry out the surveys for each bird species as agreed under sub-paragraph</p> <p>(4) and provide the post- construction and operational monitoring reports to the MMO and Natural England in the agreed format and in accordance with the agreed timetable, unless otherwise agreed in writing by the MMO, in consultation with Natural England.</p> <p>(6) Any monitoring report compiled in accordance with the monitoring schemes required under sub-paragraph (4) must be provided to the MMO and Natural England no later than four months following completion of the monitoring to which it relates, unless otherwise agreed in writing by the MMO, in consultation with Natural England.</p> <p>(7) All monitoring reports must be made publicly available and submitted to relevant evidence databases no later than six months following completion of the monitoring required by the ornithological monitoring plan unless otherwise agreed in writing by the MMO, in consultation with Natural England.</p>		
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		<p>(8) In the event that the reports provided to the MMO and Natural England under sub-paragraph (4) identify impacts which are unanticipated and/or in the view of the MMO in consultation with the relevant statutory nature conservation body are significantly beyond those predicted within the environmental statement, either an adaptive management plan to reduce effects to within what was predicted within the Environment Statement or a plan to deliver additional compensation must be submitted alongside the monitoring reports submitted under sub-paragraph (4) unless otherwise agreed by the MMO in writing in consultation with the relevant statutory nature conservation body. These plans must be agreed by the MMO in consultation with the relevant statutory nature conservation bodies. Any such agreed and approved adaptive management, mitigation or compensation should be implemented and monitored in full to a timetable agreed in writing with the MMO, in consultation with the relevant statutory nature conservation body. In the event that this adaptive management, mitigation or compensation requires a separate consent, the undertaker must apply for such consent.</p> <p>Where a separate consent is required to undertake the agreed adaptive management, mitigation or</p>		
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		compensation the undertaker shall only be required to undertake the adaptive management, mitigation or compensation once the consent is granted.		
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Yours Sincerely,

[Redacted Signature]

[Redacted Name]

Marine Licencing Case Officer

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[Redacted]