



**Marine  
Management  
Organisation**

Marine Licensing  
Lancaster House  
Hampshire Court  
Newcastle upon Tyne  
NE4 7YH

T +44 (0)300 123 1032  
F +44 (0)191 376 2681  
[www.gov.uk/mmo](http://www.gov.uk/mmo)

Mr Richard Allen  
Rampion 2 Lead Panel Member  
Rampion 2 Offshore Wind Farm Case  
Team  
Planning Inspectorate  
[Rampion2@planninginspectorate.gov.uk](mailto:Rampion2@planninginspectorate.gov.uk)  
(Email only)

MMO Reference: DCO/2019/00005  
Planning Inspectorate Reference: EN010117  
Identification Number: 20045232

25 April 2024

Dear Richard Allen,

## **Planning Act 2008, E.On Climate and Renewables UK Ltd, Proposed Rampion 2 Offshore Wind Farm Order**

### **Deadline 3 Submission**

On 20 September 2023, 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 E.On Climate and Renewables UK Ltd (the Applicant) for determination of a development consent order (DCO) for the construction, maintenance and operation of the proposed Rampion 2 Offshore Wind Farm (the “DCO Application”) (MMO ref: DCO/2019/00005; PINS ref: ENO0117). The DCO includes a draft Deemed Marine Licence (DML).

The Applicant seeks authorisation for the construction, operation and maintenance of the DCO Application, comprising of up to 90 wind turbine generators together with associated onshore and offshore infrastructure and all associated development. The associated development includes an offshore generating station with an electrical export capacity of in excess of 100 megawatts (MW) comprising up to 90 turbines, and array cables, in an area approximately 196 square kilometres (km<sup>2</sup>), located approximately 13 kilometres (km) south of the Sussex coast located to the west of the existing Rampion Offshore Windfarm.

The proposed development will comprise up to three offshore substations. Cables between the wind turbine generators (WTG), between the WTGs and the offshore substations, and between the offshore substations themselves and the landfall location at Climping, West Sussex. An underground cable connection between the landfall and a satellite substation known as Oakendene, and then onwards to connect into the existing National Grid substation at Bolney, together with an extension to the existing substation.

This document comprises the MMO’s submission for Deadline 3. 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 faithfully.



Ethan Lakeman  
Marine Licensing Case Officer

E  [@marinemanagement.org.uk](mailto:ethan.lakeman@marinemanagement.org.uk)



## Table of Contents

Table of Contents .....	3
1. MMO Response to Examining Authority's (ExA) Written Questions (ExQ1).....	4
2. MMO Comments on Applicant's first update to Draft DCO .....	18
3. MMO Comments on the first update to the Statements of Commonality of Statements of Common Ground .....	26
4. MMO Comments on Applicant's Submissions received at Deadline 1 .....	26
5. MMO Comments on Applicant's Submissions received at Deadline 2 .....	36
6. Intention to Attend ISH2 Hearing .....	38



## 1. MMO Response to Examining Authority’s (ExA) Written Questions (ExQ1)

1.1.1 The MMO have provided answers to all the ExA’s questions excluding one (Fisheries 1.20). An answer for this, if still required, will be provided in our Deadline 4 response.

Reference	Question	MMO Response
COD	Construction, Operation and Decommissioning Matters	
COD 1.7 <i>Decommissioning</i>	<p><b>The Environment Agency / Natural England / MMO / Relevant Planning Authorities</b></p> <p>Comment on expectations for recycling or reuse of the wind turbine materials at the decommissioning stage.</p>	Recycling and the reuse of wind turbine materials is not in the jurisdiction of the MMO. The MMO defer to the Environment Agency, Natural England and the relevant Planning Authorities.
DCO	Draft Development Consent Order (Draft DCO) and Draft Deemed Marine Licence (Draft DML)	
DCO Articles		
DCO 1.3 <i>Part 2, Article 5</i>	<p>The MMO [REP1-056] has expressed concerns with this Article. It states that Articles 5(5), 5(8) and 5(12) conflict with provisions within the Marine and Coastal Areas Act 2009 in that the transfer of benefits to another undertaker, even as a temporary lease, cannot be undertaken without the MMO’s consent, and that the three identified paragraphs should be removed. The Applicant’s response [REP2-026] considers the provisions in the Article have been used in other made Orders.</p> <p>(1) The ExA requires a further explanation from both the Applicant and the MMO as to why the Article as drafted is/is not appropriate, with specific and relevant Orders cited to demonstrate that the Secretary of State</p>	<p>The MMO intends to discuss Question (a) in the ISH2 hearing, with representations made by the attendance of counsel on the question raised by ExA and on Article 5 more broadly.</p> <p>Question (b) is posed to the National Grid and is outside of MMO jurisdiction.</p>

	<p>has/has not accepted similar wording regarding the transfer of benefits that did/did not require approval of the MMO.</p> <p>(2) The ExA requests National Grid to respond to the Applicant's Deadline 2 submission [REP2-028] on the wording of this Article that it does not need to expressly transfer benefits to National Grid.</p>	
Draft DML		
DCO 1.34 <i>Schedules 11 and 12 Deemed Marine Licence</i>	<p>In its WR, the MMO [REP1-056] have set out comments and requested changes, alterations and deletions in respect to:</p> <ul style="list-style-type: none"> <li>• Part 1 conditions 7-9;</li> <li>• Part 2 conditions 3(1) and 3(5);</li> <li>• Part 2 condition 9(8)</li> <li>• Part 2 condition 10;</li> <li>• Part 2 condition 17; and</li> <li>• Part 2 condition 21</li> </ul> <p>Comment on the responses provided by the Applicant at Deadline 2 [REP2-026].</p>	The MMO has provided a response to this in section 6 of this Deadline Response.
FS		
	Fish and Shellfish	
FS 1.4 <i>Noise Thresholds for Black Seabream</i>	<p>Natural England does not support the use of 141 decibels (dB) re 1 micropascal (uPa) Sound Exposure Level – Single Strike (SELss) as a threshold for black seabream behavioural disturbance and does not agree that the threshold is highly precautionary [REP1-059a, Point E34]. Explain whether there are any other species that could be used as a proxy for black seabream in these circumstances that could be agreed on by all parties. If so, this should be put forward to the Examination at Deadline 3.</p>	<p>The MMO continues to not support the use of a 141 dB SELss threshold for black sea bream, and the MMO maintain that the threshold of 135 dB SELss, as per Hawkins <i>et al.</i>, (2014), should be used as a more precautionary approach to modelling.</p> <p>The MMO have previously suggested a threshold of 135dB SELss based on a peer-reviewed paper (Hawkins <i>et al.</i>, 2014) which presents findings from a field study involving piling playback with wild sprat which are more sensitive to Underwater Noise (UWN) than black sea bream. For these</p>

		<p>reasons, the 135 dB can be considered precautionary, but less precautionary than if we were to use the threshold of 131 dB which was found in the study by Kastelein <i>et al.</i> (2017) for seabass that were of the same size as reproductively mature black sea bream.</p> <p>However, the MMO understands that there is no agreement between MMO, Natural England and the Applicant on noise threshold or proxy species for black sea bream. As stated in our previous response, if the Applicant wants to pursue a noise threshold route, the MMO would expect to see more noise modelling based on the 135dB threshold. However, even if this is provided the MMO is unlikely to agree a threshold approach for black sea bream.</p>
<p>FS 1.9 <i>Piling Noise – Background Noise</i></p>	<p>The Applicant has stated that as the presence of the noise at the threshold level would be limited in time and location, then for most of the time and place within the Kingmere MCZ, the noise would not be far in excess of noise that is already present at this site [REP2-026, Point E13, Page 102]. Provide a response on whether this is an agreed matter.</p>	<p>The MMO reiterates that the Applicant’s threshold of 141db SELss is not sufficiently precautionary. The MMO do not believe that it is an ‘agreed matter’ that ‘the noise will not be far in excess of noise that is already present at this site’.</p> <p>The MMO have previously raised concerns about the lack of explanation and justification on the conversion of 141db SELss into 148dB SPLrms; when considering that the noise sources are different (i.e., impulsive vs continuous noise sources).</p> <p>The MMO have also previously raised concerns about the limitations of the 2022 monitoring surveys (APP –134) given that the survey lasted 15 days and therefore provides a short window of monitoring during the latter part of the black bream nesting period (July). The MMO’s technical advisors, Cefas (Centre for Environment, Fisheries and Aquaculture Science) have previously highlighted several limitations with the 2022 monitoring survey highlighted that</p>

		<p>a short-term measure of the ambient noise should not be used as representative of the ambient noise at that location for any time other than the period of time during which the measurements were undertaken (Good Practice Guide for Underwater Noise Measurement, Marine Scotland, 2014). The Applicant should also explain why they have omitted the data from their 2023 noise monitoring survey in favour of 2022 data that came from a much shorter monitoring period and thus has more limitations associated with it.</p> <p>The above points were discussed in a meeting with the Applicant, MMO and Cefas on 19<sup>th</sup> April. The MMO and Cefas are waiting to receive a clarification email from the Applicant, which the MMO will then re-consult our technical advisors with.</p> <p>Until such a time that the Applicant's modelling is deemed to accurately represent the likely range of behavioural impacts from UWN noise on black sea bream, and until clarification is provided on the efficacy and achievability of the proposed noise abatement reductions (which ranges from -6 dB to -25 dB) and the achievability of any potential zoning plan (which as per our previous advice is not supported based on the current evidence), the MMO must maintain our recommendation of a seasonal piling restriction in order to limit disturbance to adult spawning and nesting black sea bream during their spawning and nesting period (March to July, inclusive).</p> <p>The MMO is open to discussing the refinement of this restriction either spatially or temporally post-consent, providing that suitable evidence is presented and an agreement between the Applicant, the MMO, Cefas and Natural England is reached. The MMO would not support</p>
--	--	---



		this unless an agreement is reached between NE, MMO and Cefas.
FS 1.10 <i>Rampion Impacts on Black Seabream</i>	The Applicant stated that R1 did not identify any adverse population effects on black seabream following construction, with the surveys showing an increase between pre- and post-construction surveys [REP2-026, Point E15, Page 104]. Provide a response on whether this is an agreed matter. Furthermore, if you agree this evidence is accurate, explain whether this suggests that the impact of piling to black seabream during July would not result in significant effects, given that there was piling in July with the Rampion 1 development?	<p>The MMO is responsible for reviewing post-consent monitoring for Rampion 1, alongside our technical advisor Cefas, and NE. A decision is yet to be made regarding the Year 2 submissions from Rampion 1 for fisheries as several outstanding queries from both NE and Cefas are yet to be resolved. Therefore, the MMO do not consider this an agreed matter until the post-consent monitoring has been fully discharged by the MMO.</p> <p>NE commented that the fisheries monitoring ‘<i>does not provide any information on potential changes in black seabream behaviours</i>’, and this was also mentioned by Cefas, who commented that monitoring of Black Sea Bream was not a requirement of monitoring for Rampion 1, and how little focus there is on black sea bream within post-construction monitoring for Rampion 1 given its proximity to Kingmere MCZ. Additionally, Cefas have highlighted that that there are several elements of the analyses for R1 post-consent fisheries monitoring that need to be examined and rerun so that accurate results are presented, and that statistical tests have been misreported and require amending.</p> <p>Lastly, Cefas have stated that the following conclusion from R1, that the changes to fish community composition are “<i>in the same order of magnitude as natural seasonal differences</i>” cannot be accepted until the uncertainties in analyses are addressed.</p>
FS 1.20 <i>Sandeel</i>	The Applicant has submitted further information on sandeel habitat which it says undertaken following the MarineSpace (2013a) methodology. This concludes that based on available evidence the Proposed Development would not be considered a key area for	The MMO is not able to provide comments relating to sandeel at this time and will include comments in our next response.



	<p>sandeel spawning activity [REP1-020, Section 3.1]. Provide a response, including whether any outstanding concerns remain with how the Proposed Development could impact sandeel spawning habitats.</p>	
<p>FS 1.21 <i>Herring Spawning Areas</i></p>	<p>The Applicant has submitted additional information using heatmapping exercises for herring with the conclusion given that it indicates that the Order limits are in areas of very low to low confidence of herring spawning habitats [REP1-020, Paragraph 3.2.9]. Provide a response.</p>	<p>The Applicant has presented herring spawning habitat suitability maps in Figures 3-3 and 3-4 (REP1-020) which include existing site-specific particle size (PSA) analysis data for the Eastern English Channel. The Applicant's figures show that although the Rampion array itself has generally low potential as herring spawning habitat, the DCO limits are located on the cusp of suitable spawning habitat. This is supported by the PSA data included in Figures 3.3 and 3.4 provides direct ground truthing of broadscale seabed sediment data and confirms the presence of sediments with potential to provide preferred spawning habitat on the boundary of the DCO limits. The PSA data have been classified into the following categories of spawning habitat suitability; 'prime/preferred', sub-prime/preferred', 'suitable/marginal' or 'unsuitable' (according to Reach <i>et al.</i>, 2013). Figure 3-3 has also used EMODnet sediment class data to delineate areas of preferred and marginal herring spawning habitat. The EMODnet data and PSA data shown in Figure 3-3 indicate that the area to the north of the historic spawning ground (Coull <i>et al.</i>, 1998) is suitable as herring spawning habitat, with dense PSA coverage showing sediments consisting of 'prime/preferred' and sub-prime/preferred' spawning habitat. This area also coincides with the area of highest larval density where concentrations of larvae are between 48,000 – 98,500 per m<sup>2</sup>.</p> <p>It is also worth noting that there are several licenced marine aggregate extraction sites located in this area (Areas 1806, 1807, 529, 1803/1, 1803/2, 464, 458, 473/1, 473/2 and 478) all of which have conditions applied to their licences that place restrictions on dredging during the Downs herring</p>

		<p>spawning season between 1st December and 31st January inclusive (see Annex 2), which further demonstrates that this is area is considered herring spawning habitat by Cefas Fisheries Advisors and the MMO.</p> <p>Additionally, the Coull <i>et al</i> (1998) shapefiles provide an indication of where broadly herring spawning grounds occur but should not be relied upon as the sole indicator. The MMO consider that using International Herring Larval Survey (IHLS) data would be more appropriate to determine herring spawning grounds, and further information on this can be found in this Deadline 3 response.</p> <p>The MMO does not agree that the presence of suitable Herring spawning area is 'very low' to 'low' within the DCO order limits, and a more conservative approach should be taken when uncertainty remains.</p>
FS 1.22 <i>Herring Spawning Areas</i>	The submitted evidence [REP1-020, Section 3.2.10] suggests there are areas of high confidence that suitable herring spawning substrates are present 8km to the southeast of the array areas. Explain whether this indicates that there is likely to be herring spawning as close as 8km from the Order limits and potential piling areas.	As suitable herring spawning substrates are present within proximity to the order limits (~8km) there is the potential for herring spawning to occur as close as ~8km.
FS 1.24 <i>Mitigated Noise Thresholds for Herring</i>	The Applicant has presented the unmitigated behavioural impact ranges on herring, and the reduced impact contours from the minimal noise abatement offered by the mitigation proposed (-6dB reduction from the use of a low noise hammer) during the Downs herring spawning period relative to the spawning ground [REP1-020, Paragraph 4.1.12, Figures 4-3 and 4-4]. Confirm whether there would be no behavioural effects on herring through piling noise if mitigation is	The Applicant has presented some new UWN modelling in Figures 4-3 to 4-4 to predict the range of effect for behavioural responses in spawning herring at the spawning ground using the 135 db SELss threshold (as per Hawkins <i>et al.</i> , 2014). In Figure 4.3 there is a significant overlap between the mitigated (-6 dB) and unmitigated behavioural response noise contours with areas of high and very high larval abundance. For the reasons outlined in the point 1.21 above, and further explained in this Deadline 3 response, it is reasonable to assume that herring engaged in spawning activity are likely to exhibit behavioural responses during

	<p>used. Explain whether the 6db noise reduction used by the Applicant appropriate for such an exercise.</p>	<p>monopiling activities at the Rampion Extension site. The same can be said for multileg piling activities which also result in a significant overlap between the mitigated (-6 dB) and unmitigated behavioural response noise contours with areas of high and very high larval abundance, as can be seen in Figure 4-4.</p>
<p>FS 1.25 <i>Behavioural Effects on Herring Spawning</i></p>	<p>In a worst-case scenario, explain the potential behavioural effects of piling noise on herring whilst spawning.</p>	<p>In the ES<sup>5</sup>, the Applicant calculated the range of effect for behavioural responses in herring as a result of UWN from impulsive piling to occur as far as 67km from the source of piling, based on the recommended modelled threshold of 135dB SELss (Hawkins <i>et al.</i>, 2014). Figure 8.20 (REP1-007) presents the noise contour for <u>sequential mono-piling</u> in the four modelling locations of Rampion Extension Array, based on the unweighted SELss 135dB, as per Hawkins <i>et al.</i> (2014). Figure 8.20 indicated a significant overlap with the Downs herring spawning ground, as indicated by IHLS larval abundance data. However, the Applicant concluded in paragraph 8.9.195 of the ES that, as the UWN contours did not directly overlap with the spawning grounds as indicated by the Coull <i>et al.</i> (1998) shapefile, they considered the magnitude of a behavioural impact to spawning herring from UWN was negligible. The Applicant appears to have retained this position in their most recent response (point 4.6.36 of REP1-017) and having reviewed the evidence provided we still fundamentally disagree with this assessment.</p> <p>Figures 8.18 and 8.19 (REP1-007) presents UWN modelling for <u>sequential piling</u> of <u>multileg and monopile</u> foundations, respectively. The noise contours show impacts ranges for mortality and potential mortal injury (207 dB SELcum), recoverable injury (203 dB SELcum) and temporary threshold shift (TTS) 186 dB SELcum. Under these scenarios, there is an overlap for the effects of TTS from sequential mono and multileg piling with areas of high larval densities (48,000 – 98,500 per m<sup>2</sup>), but no overlap for</p>

		<p>the effects of mortality and potential mortal injury or recoverable injury. As discussed above <b>(FS1.24) the area where high</b> larval densities occur is considered to be suitable herring spawning habitat where herring engaged in spawning activity are likely to be present. On this basis, it is reasonable to assume that herring engaged in spawning activity are likely to be affected by temporary injurious effects (TTS) if piling activities are operational during the Downs herring spawning season (November to January, inclusive).</p> <ol style="list-style-type: none"><li>1. Figure 8.20 presents the UWN modelling for <u>sequential mono-piling</u> in the four modelling locations of Rampion Extension Array, based on the unweighted SELs 135dB, as per Hawkins <i>et al.</i> (2014). There is significant overlap between the behavioural effects noise contour with the Downs herring spawning ground, as indicated by high larval abundance data. It is therefore reasonable to assume that herring engaged in spawning activities are likely to exhibit behavioural responses if piling activities are operational during the Downs herring spawning season (November to January, inclusive).</li><li>2. Figure 8.21 presents the UWN modelling for <u>simultaneous piling of multileg foundations</u>. The noise contours show impacts ranges for mortality and potential mortal injury (207 dB SELcum), recoverable injury (203 dB SELcum) and temporary threshold shift (TTS) 186 dB SELcum. Under this scenario, there is an overlap for the effects of TTS from simultaneous piling of multileg foundations with areas of high larval densities (48,000 – 98,500 per m<sup>2</sup>), but no overlap for the effects of mortality and potential mortal injury or recoverable injury. For the reasons above (FS 1.21 - 1.24, it is reasonable to assume that herring engaged</li></ol>
--	--	---

		in spawning activity are likely to be affected by temporary injurious effects (TTS) from <u>simultaneous multileg piling</u> if activities are operational during the Downs herring spawning season (November to January, inclusive).
BP	Benthic and Offshore Processes	
BP 1.1 <i>Predictive Modelling</i>	The Applicant has provided some additional information on the use of predictive modelling to provide a habitat model for the seabed [REP1-033, Agenda Item 12(i)]. The Applicant states that the model was retained for the ES as it provides wider contextualisation of habitats rather than being relied on instead of the site-specific data and the Applicant could have removed it but viewed it as useful information. The Applicant also states that the site-specific data has been updated and added to the model. Explain whether the use of some degree of predictive modelling a suitable approach, to address any remaining data gaps at this stage, or is it a question of the degree at which predictive modelling has been relied upon.	This Question relates to ISH1 (REP1-033) and the MMO therefore defers to Natural England on the topic of predictive modelling.
BP 1.4 <i>Cable Protection</i>	Explain whether there any forms of cable protection included within the ES which should be discounted where cable protection is necessary.	In general terms, rock placement is (or appears to be) the least reversible of the options but clearly introduce new substrate and affect flows locally. Flow energy dissipation devices should have a clearly defined design reasoning i.e., there should be a reason why flow energy should be dissipated in a specific way at a given location, and so these are unlikely to be the default option. Bags represent a useful option where removal of the protection is anticipated but mattresses may be a more robust option in some locations where bags may be damaged in-situ. In general, the MMO and our technical advisors Cefas would advise against the use of scour protection introducing plastic materials to the marine environment.

		<p>The MMO agrees with NE that the final cable protection should be the form which minimises the environmental impacts as far as possible, and that consideration should be given to using the method which is most likely to be removable at decommissioning.</p>
	<p>The Applicant has stated that it cannot commit to the removal of cable protection, as this would be subject to a separate licence application to enable decommissioning of the project [REP1-30, Paragraph 2.1.4]. Provide a response. Explain if there is a possibility that, over time, there could be ecological reasons (such as the colonisation of cable protection) for not wanting the removal of cable protection at decommissioning stage.</p>	<p>The Applicant has provided further information on the use of gravel beds as an alternative to flotation pits. As well as an assessment of the potential impacts (REP1-030). The MMO agrees that the removal of cable protection would be subject to a separate licence and understands that this would require assessment at a later stage and is not possible to determine at this time.</p> <p>The MMO is aware of complaints received by the fishing community regarding rocks left on the seafloor after the construction phase of Rampion 1. These rocks have made fishing practices challenging (e.g., trawling) and cable protection (rock, concrete mattresses, or rock bags) are likely to cause similar problems for fisheries.</p> <p>There is a possibility that, over time, macrofaunal and epifaunal organisms may colonise cable protection. However, as the type of cable protection is yet to be determined by the Applicant, it is difficult to ascertain the scale of colonisation. Additionally, the materials used within cable protection are not specifically designed to enhance marine colonisation, and therefore it would be sensible to assume that colonisation is low. It is also possible that cable protection may be colonised by Invasive Species (e.g the Pacific Oyster, <i>Magallana gigis</i>), and overall have a negative impact (in addition to the permanent loss of NERC reef habitats) on local biodiversity.</p> <p>The MMO does acknowledge that for certain cable protection methods, it is common practice to leave in-situ</p>

		rather than to remove during decommissioning (Rock protection) but understands that the removal of rock bags is common practice ( <a href="#">NECR403</a> ).
BP 1.8 <i>Avoidance of Offshore Chalk</i>	The Applicant has stated that taking construction risk and the maximum distance limitations of the technique into account, it is not possible to extend the HDD to the extent that all the inshore chalk area is avoided [REP1-017, Page 344]. Given the extent of chalk near the coast provide a response that HDD cannot be used to avoid impacts to chalk. Explain whether the impacts to chalk from the proposed cable corridor would be unavoidable.	Gravel bags as an alternative to HDD will result in unavoidable damage to inshore chalk areas. Additionally, the Applicant has not provided a methodology for how rock bags will be installed/removed,  The MMO questions why gravel bags are proposed to be installed one month prior to the vessel. The MMO recommends placing gravel bags in-situ for as short a period as possible (for example, 2 weeks prior to vessels arriving). However, the MMO acknowledges the Applicant's assessment of gravel bag beds.  The MMO would expect the Applicant to consider all possible cable installation and selected methodology that minimises the environmental impacts the most (including the loss of marine chalk). However, on the matter of HDD and avoidance of offshore chalk the MMO defers to NE.
BP 1.9 <i>Disposal of Chalk</i>	The MMO welcomed the Applicant's commitment that they would engage with the MMO to establish whether a condition is required within the DML relating to the disposal of chalk arising from the export cable area to the array area [REP2-035, Paragraph 1.11.4]. Please provide such a condition within the DMLs, or explain why it is not necessary.	The MMO will review the condition once provided by the Applicant.
BP 1.10 <i>Cuttings of Chalk</i>	The Applicant has confirmed that they would infill the cable trench with the chalk cuttings, where the cable is laid within the chalk [REP1-017, Page 348]. Explain whether the value of chalk cuttings the same as the	The MMO's overall position is that the cutting of chalk will permanently damage the physical structure of the chalk, and this cannot be repaired by putting the chalk cuttings back inside the trench. Chalk cuttings replaced back into the cable burial trench would have different hydrodynamic and sedimentological properties compared to the



	chalk before it is cut, even if the cuttings are put back in the trench.	undisturbed/consolidated chalk. In general, this material may be more erodible than the previous consolidated rock and may contain a range of grain sizes, some of which may be potentially mobile under certain conditions.  On this matter the MMO defers to NE.
<b>MM</b>	<b>Marine Mammals</b>	
MM 1.1 <i>Draft Unexploded Ordnance Clearance Marine Mammal Mitigation Protocol</i>	In the MMO's responses to WRs submitted at Deadline 2 [REP2-035] the MMO states it acknowledges the Applicant's creation of the Draft Unexploded Ordnance Clearance Marine Mammal Mitigation Protocol [APP-237] and that the Applicant is confident that appropriate mitigation can be secured. Confirm if there are any outstanding concerns from the MMO, particularly but not exclusively, relating to: a) The Marine Mammal Underwater Noise Assessment relating to fleeing animals b) Permanent Threshold Shift significance c) The TTS assessment d) Sensitivity score for cetaceans	Overall, the MMO is satisfied with the Applicant's response to MMO.4.7.8 (fleeing animals). However, the MMO emphasise that the use of strong language and statements such as "highly precautionary" should be avoided when a lot of uncertainty remains.  With regards to the TTS assessment, it was agreed in the interest of moving forward that, as a minimum, the predicted TTS impact ranges and number of animals potentially at risk should be presented in the assessment. Whilst TTS is not assessed as an impact pathway in terms of sensitivity, magnitude or significance in the ES as such, the ES does contain a somewhat detailed 'TTS Assessment'. Thus, the associated uncertainties should be noted / recognised.  The MMO still considers that the sensitivity assessment of all cetaceans to PTS-onset as low to be incorrect, and the MMO recommends that cetaceans should be assessed as having a high sensitivity to PTS. The MMO's position on this will not change until empirical evidence can be presented to support the Applicant's opinion.  The MMO stated in our Deadline 2 (20 <sup>th</sup> March 2024) response that concerns are shared with NE as there are no considerations for monitoring the effectiveness of suggested mitigation measures in reducing the underwater noise impacts to acceptable levels. This concern remains and has not been resolved.

		The MMO has included additional information relating to Under Water Noise in this Deadline 3 response.
MM 1.2 <i>Worst-case Piling Scenario for Marine Mammals</i>	State whether there are any ongoing concerns with the Applicant's modelling of the worstcase scenario for piling in relation to marine mammals.	NE still have concerns regarding the Applicant's modelling of the worst-case scenario for piling, and the MMO would like to see Cefas, the MMO and NE in agreement on this matter before we are able to consider this resolved.
MM 1.3 <i>Offshore In-principal Monitoring Plan</i>	Natural England's Risk and Issue log submitted at Deadline 2 [REP2-041] continues to include an amber concern (C40) with the marine mammal section of the Offshore In-Principal Monitoring Plan, regarding proposed post-consent monitoring only including the first 4 piles. It states there is no consideration of monitoring the effectiveness of the mitigation measures in reducing the impacts to acceptable levels.	The MMO consider the Offshore In-Principal Monitoring Plan to adequately capture (at a high level) the monitoring required for underwater noise. Construction noise monitoring should include measurements of noise generated by the installation of the first four piled foundations of each piled foundation type to be installed. Full specifications will be provided in the final monitoring plan.  However, the MMO understands that this question relates to the NE's issues log, and therefore defers mostly to NE.

## 2. MMO Comments on Applicant's first update to Draft DCO

2.1.1 The MMO has substantive comments to make on the Applicant's first update to the Draft DCO. Some of our comments are summarised in the table below, but comments pertaining to the Benefit of the Order will be responded to in our next Deadline response. As detailed in section 6 of this response, the MMO intend to attend the ISH2 hearing and bring legal counsel to comment on the draft DCO. The MMO will instruct Counsel to make representation on our position, this will primarily be in relation to Article 5, but may also include representations on paragraph 9 of Schedules 11 & 12 and conditions 3(5) and 10(1). In conducting this review, the MMO has considered the schedule of updates provided by the applicant and also the track changed version of the DCO (REP2-003). The MMO note that upon reviewing the tracked changes DCO, that there have been some additional changes to the document which have not been track changed.

Main DCO		
	Part 2 Principal Powers	MMO Comments and amendments
	5 Benefits of the Order	<p>The MMO notes that none of our previous comments have been actioned. This article remains in place despite MMO's previous objection.</p> <p>The MMO's position remains it should be made clear that this section does not apply to the MMO. (See also condition (7) of both DMLs, which should also be removed)Further representations on this point will be made by Counsel at the hearing</p>
	Schedule 11 – Deemed Marine Licence	
	Part 1	
	2.(b) "...(transmission);;"	Remove second ";"
	7. <i>"The provisions of section 72 (variation, suspension, revocation and transfer) of the 2009 act apply to this licence except that the provisions of section 72(7) and (8) relating to the transfer of the licence only apply to a transfer not falling within article 5 (benefit of the Order) of the Order."</i>	This provision has not yet been removed, along with the other sections of article 5, above. Counsel to provide representations on this point.

	<p>9. Any amendments to or variations from the approved plans, protocols or statements must be in accordance with the principles and assessments set out in the environmental statement and approval for an amendment or variation may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the MMO that the amendment or variation is unlikely to give rise to any material new or materially different environmental effects from those assessed in the environmental statement.</p>	<p>The MMO's previous comments have been only partially integrated. The MMO would like to see strengthening of the wording for clarity and to ensure MMO is able to regulate sufficiently robustly. MMO proposed changes in bold:</p> <p><i>"Any amendments to or variations from the approved plans, protocols or statements must be in accordance with the principles and assessments set out in the environmental statement and approval for an amendment or variation may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the MMO that the amendment or variation <del>is unlikely to</del> <b>will not</b> give rise to any material new or materially different environmental effects from those assessed in the environmental statement."</i></p>
Part 2 Conditions		
	<p>Condition 3(2) "[...] All operations and maintenance activities shall be carried out in accordance with the submitted operations and maintenance plan."</p>	<p>The operations should be in accordance with the plan as approved, not simply submitted. Amended with additional wording allowing for alternatives to be agreed in writing to allow for flexibility. MMO proposed changes in bold:</p> <p><i>"All operations and maintenance activities should be carried out in accordance with the <b>approved</b> <del>submitted</del> operations and maintenance plan <b>unless otherwise agreed in writing between the applicant and the MMO.</b>"</i></p>
	<p>Condition 3(5) "Where the MMO's approval is required under paragraph (3), approval may be given only where it has been demonstrated to the satisfaction of the MMO that the works for which approval is sought are unlikely to give rise to any material new or materially different environmental effects from those assessed in the environmental statement."</p>	<p>This should accord with the same standard proposed in Part 1(9), above. MMO proposed changes in bold:</p> <p><i>"Where the MMO's approval is required under paragraph (3), approval may be given only where it has been demonstrated to the satisfaction of the MMO that the works for which approval is sought <del>are unlikely to</del> <b>will not</b> give rise to any material new or materially different environmental effects from those assessed in the environmental statement."</i></p>
	<p>Condition 4. Any time period given in this licence given to either the undertaker or the MMO may</p>	<p>The MMO would like clarification in terms of which time periods the applicant is considering would apply here (both in relation to the applicant and also the MMO).</p>

	be extended with the written agreement of the other party.	
	Condition 8(3) “... structures above 60meters”	Needs space, e.g. “... structures above 60 meters”
	Condition 9(8) “All dropped objects must be reported to the MMO using the Dropped Object Procedure Form as soon as reasonably practicable following the undertaker becoming aware of an incident. On receipt of the Dropped Object Procedure Form, the MMO may require relevant surveys to be carried out on the undertaker (such as side scan sonar) if reasonable to do and the MMO may require obstructions which are hazardous to other marine users to be removed from the seabed at the undertaker’s expense if reasonable to do so.”	<p>This passage has been weakened since the MMO’s last requested change. The MMO requires a time frame for reporting. The Dropped Object Procedure Form isn’t defined, so shouldn’t be capitalised here. The MMO requires a broader discretion on the reasons for removing obstructions so should not be bound by the higher standard of demonstrating that the obstructions be hazardous to other marine users. (Note that any requirement must be reasonable in any event). Other minor changes recommended for clarity. MMO proposed changes in bold:</p> <p>“Condition 9(8) All dropped objects must be reported to the MMO using the <b>dropped object procedure form</b> <del>Dropped Object Procedure Form</del> as soon as reasonably practicable <b>and in any event within 24 hours</b> of the undertaker becoming aware of an incident. On receipt of the dropped object procedure form, the MMO may require relevant surveys to be carried out by the undertaker (such as side scan sonar) if reasonable to do so. <del>And the</del> <b>On receipt of such survey results</b> the MMO may require <b>specific</b> obstructions <del>which are hazardous to other marine users</del> to be removed from the seabed at the undertaker’s expense if reasonable to do so.”</p>
	Condition 10(1) Force Majeure “If, due to stress of weather or any other cause the master of a vessel determines that it is necessary to deposit the authorised deposits within or outside of the Order limits because the safety of human life or if the vessel is threatened, within 48 hours full details of the circumstances of the deposit must be notified to the MMO. (2) The unauthorised deposits must be removed at the expense of the undertaker unless written approval is obtained from the MMO.”	<p>The MMO previously asked for this clause to be taken out (on the basis that it duplicates s.86 of MCAA and causes confusion).</p> <p>The applicant is asked why they require this provision to be retained since it would appear to duplicate s.86 MCAA.</p> <p>Counsel will provide further responses and clarification on this point if required.</p>

	Condition 11 (2)(b) <i>a full review of high resolution geophysical survey date and arrangements to document the same with West Sussex County Council;</i>	The MMO notes the removal of condition 11 2 (b), relating to the terrestrial interests of West Sussex Council and acknowledge that this has instead been covered under Part 3 Section 19 of the DCO, Onshore Archaeology.
	Condition 12 (3) <i>The MMO must determine an application for approval made under condition 11 within a period of four months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker.</i>	Condition should be removed in its entirety. The MMO has internal Key Performance Indicators (KIPs) which work towards a 13 week turn around. The MMO will never unduly delay but cannot be bound by arbitrary deadlines imposed by the applicant since this would potentially prejudice other licence applications by offering expediency to the applicant at the expense of other applications. It is also unclear what consequences would result if this deadline was not met, and how that would impact on the MMO's regulatory function.
	Condition 16(2)(b) <i>“(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition, the pre-construction survey proposals must have due regard to the need to undertake— [...] (b) a survey to determine the location, extent and composition of chalk habitats, stony reef and potential Sabellaria spinulosa reef features, potential nesting sites for black seabream, and peat and clay exposures as set out within the outline in-principle monitoring plan.”</i>	The MMO considers this definition unnecessarily restrictive and requests the following s amendments in bold:  <i>“(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition, the pre-construction survey proposals must have due regard to the need to undertake— [...] (b) a survey to determine the location, extent and composition of chalk habitats, stony reef and potential Sabellaria spinulosa reef features, potential nesting sites for black seabream, and peat and clay exposures <b>and any other species or features</b> as set out within the outline in-principle monitoring plan.”</i>
	Condition 16(3): <i>“(3) The undertaker must carry out the surveys agreed under sub-paragraph (1) and provide the baseline report to the MMO in the agreed format and in accordance with the agreed timetable, unless otherwise agreed in writing by the MMO and submitted to the MCA as Geographical Information System data referenced to WGS84 datum.”</i>	Unclear what the ‘agreed timetable’ referred to here is, applicant is asked to clarify.
Schedule 12: Deemed Marine Licence		

	Part 1	
	7. <i>“The provisions of section 72 (variation, suspension, revocation and transfer) of the 2009 act apply to this licence except that the provisions of section 72(7) and (8) relating to the transfer of the licence only apply to a transfer not falling within article 5 (benefit of the Order) of the Order.”</i>	This provision has not yet been removed, along with the other sections of article 5, above. Counsel to provide representations on this point.
	9. <i>Any amendments to or variations from the approved plans, protocols or statements must be in accordance with the principles and assessments set out in the environmental statement and approval for an amendment or variation may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the MMO that the amendment or variation is unlikely to give rise to any material new or materially different environmental effects from those assessed in the environmental statement.</i>	The MMO’s previous comments have been only partially integrated. Strengthening of the wording for clarity and to ensure MMO is able to regulate sufficiently robustly. MMO proposed changes in bold:  <i>“Any amendments to or variations from the approved plans, protocols or statements must be in accordance with the principles and assessments set out in the environmental statement and approval for an amendment or variation may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the MMO that the amendment or variation <del>is unlikely to</del> <b>will not</b> give rise to any material new or materially different environmental effects from those assessed in the environmental statement.”</i>
	Part 2 Conditions	
	Condition 2(6) <i>“Any cable protection authorised under the licence must be deployed within 10 years from the date of the Order unless otherwise agreed with the MMO.”</i>	The MMO note the change to 10 years from 15.
	Condition 3(2) <i>“[...] All operations and maintenance activities shall be carried out in accordance with the submitted operations and maintenance plan.”</i>	The operations should be in accordance with the plan as approved, not simply submitted. Amended with additional wording allowing for alternatives to be agreed in writing to allow for flexibility.  <i>“All operations and maintenance activities should be carried out in accordance with the <b>approved</b> <del>submitted</del> operations and maintenance plan <b>unless otherwise agreed in writing between the applicant and the MMO.</b>”</i>



	<p>Condition 3(5) <i>“Where the MMO’s approval is required under paragraph (3), approval may be given only where it has been demonstrated to the satisfaction of the MMO that the works for which approval is sought are unlikely to give rise to any material new or materially different environmental effects from those assessed in the environmental statement.”</i></p>	<p>This should accord with the same standard proposed in Part 1(9), above. MMO proposed changes in bold:</p> <p><i>“Where the MMO’s approval is required under paragraph (3), approval may be given only where it has been demonstrated to the satisfaction of the MMO that the works for which approval is sought <del>are unlikely to</del> <b>will not</b> give rise to any material new or materially different environmental effects from those assessed in the environmental statement.”</i></p>
	<p>Condition 4. <i>“Any time period given in this licence given to either the undertaker or the MMO may be extended with the written agreement of the other party.”</i></p>	<p>MMO to seek clarification in terms of which time periods the applicant is considering would apply here (both in relation to the applicant and also the MMO).</p>
	<p>Condition 9(8) <i>“All dropped objects must be reported to the MMO using the Dropped Object Procedure Form as soon as reasonably practicable following the undertaker becoming aware of an incident. On receipt of the Dropped Object Procedure Form, the MMO may require relevant surveys to be carried out on the undertaker (such as side scan sonar) if reasonable to do and the MMO may require obstructions which are hazardous to other marine users to be removed from the seabed at the undertaker’s expense if reasonable to do so.”</i></p>	<p>This passage has been weakened since the MMO’s last requested change. The MMO requires a time frame for reporting. The Dropped Object Procedure Form isn’t defined, so shouldn’t be capitalised here. The MMO requires a broader discretion on the reasons for removing obstructions so should not be bound by the higher standard of demonstrating that the obstructions be hazardous to other marine users. (Note that any requirement must be reasonable in any event). Other minor changes recommended for clarity.</p> <p><i>“Condition 9(8) All dropped objects must be reported to the MMO using the <b>dropped object procedure form</b> <del>Dropped Object Procedure Form</del> as soon as reasonably practicable <b>and in any event within 24 hours</b> of the undertaker becoming aware of an incident. On receipt of the dropped object procedure form, the MMO may require relevant surveys to be carried out by the undertaker (such as side scan sonar) if reasonable to do so. <del>And the</del> <b>On receipt of such survey results</b> the MMO may require <b>specific</b> obstructions <del>which are hazardous to other marine users</del> to be removed from the seabed at the undertaker’s expense if reasonable to do so.”</i></p>
	<p>Condition 10(1) Force Majeure <i>“If, due to stress of weather or any other cause the master of a</i></p>	<p>The MMO previously asked for this clause to be taken out (on the basis that it duplicates s.86 of MCAA and causes confusion).</p>

	<p><i>vessel determines that it is necessary to deposit the authorised deposits within or outside of the Order limits because the safety of human life or if the vessel is threatened, within 48 hours full details of the circumstances of the deposit must be notified to the MMO. (2) The unauthorised deposits must be removed at the expense of the undertaker unless written approval is obtained from the MMO.”</i></p>	<p>The applicant is asked why they require this provision to be retained since it would appear to duplicate s.86 MCAA.</p> <p>Counsel will provide further representations on this point if required</p>
	<p>Condition 11(2)</p>	<p>The MMO notes the changes to the wording of this condition introduced in response to Historic England’s Written Representations. The MMO confirms these changes to be acceptable.</p>
	<p>Condition 12 (3) <i>“The MMO must determine an application for approval made under condition 11 within a period of four months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker.”</i></p>	<p>Condition should be removed in its entirety. The MMO has internal KIPs which work towards a 13 week turn around. The MMO will never unduly delay but cannot be bound by arbitrary deadlines imposed by the applicant since this would potentially prejudice other licence applications by offering expediency to the applicant at the expense of other applications. It is also unclear what consequences would result if this deadline was not met, and how that would impact on the MMO’s regulatory function.</p>
	<p>Condition 16 (2)(b)  <i>“(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition, the pre-construction survey proposals must have due regard to the need to undertake— [...] (b) a survey to determine the location, extent and composition of chalk habitats, stony reef and potential Sabellaria spinulosa reef features, potential nesting sites for black seabream, and peat and clay exposures as set out within the outline in-principle monitoring plan.”</i></p>	<p>The MMO considers the existing drafting overly restrictive and requests the amendments in bold:</p> <p><i>“(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition, the pre-construction survey proposals must have due regard to the need to undertake— [...] (b) a survey to determine the location, extent and composition of chalk habitats, stony reef and potential Sabellaria spinulosa reef features, potential nesting sites for black seabream, and peat and clay exposures <b>and any other species or features</b> as set out within the outline in-principle monitoring plan.”</i></p>

	<p>Condition 16(3): <i>“(3) The undertaker must carry out the surveys agreed under sub-paragraph (1) and provide the baseline report to the MMO in the agreed format and in accordance with the agreed timetable, unless otherwise agreed in writing by the MMO and submitted to the MCA as Geographical Information System data referenced to WGS84 datum.”</i></p>	<p>Unclear what the ‘agreed timetable’ referred to here is, applicant is asked to clarify.</p>
	<p>Condition 18(2) <i>“The surveys to be undertaken pursuant to sub-paragraph (1) above must include a swath bathymetric survey to IHO Order 1a of those parts of the offshore Order limits where the authorised scheme has been constructed and provide the data and survey report(s) to the MCA and UKHO. This should fulfil the requirements of MGN654 and its supporting ‘Hydrographic Guidelines for Offshore Renewable Energy Developers’, which includes the requirement for the 155 full density data and reports to be delivered to the MCA and the UKHO for the update of nautical charts and publications.”</i></p>	<p>The MMO notes the changes to the wording of this condition. The MMO confirms these changes to be acceptable.</p>

### 3. MMO Comments on the first update to the Statements of Commonality of Statements of Common Ground

- 3.1.1 The MMO attended a meeting with the Applicant on 23rd February 2024 in which the categorisation of issues listed in the Statement of Common Ground (SoCG) were discussed. There was no disagreement between the MMO and the Applicant as to the status of any listed issues.
- 3.1.2 The Applicant submitted an updated Statements of Commonality of Statements of Common Ground (Rev B) at Deadline 2. Confirmation of the MMO's position on outstanding issues is summarised below.
- 3.1.3 The MMO notes that comments raised at point 4.1.13 of our Deadline 2 response concerning the incorrect categorisation of ongoing issues have not been addressed.
- 3.1.4 The MMO is of the belief that the categorisation of Marine Mammals and DCO and Securing Mechanism as light green (Some matters agreed / some matters under discussion) is misleading. The MMO believes these sections should be re categorised as purple (Some matters agreed, some matters not agreed, some matters under discussion) to reflect the levels of ongoing negotiations and significance of existing MMO concerns more accurately. The MMO agrees with the categorisation of all other topics.
- 3.1.5 The MMO welcomes future engagement with the Applicant and hopes to resolve the remaining points on our SoCG in a timely manner.

### 4. MMO Comments on Applicant's Submissions received at Deadline 1

- 4.1.1 The MMO has consulted with its technical advisors, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and reviewed the following revised documents submitted at Deadline 1:
- Chapter 11: Marine mammals (REP1 – 004)
  - Outline Fisheries Liaison and Co-existence Plan, Revision B (REP1-014)
  - Fish and Shellfish (Figures) (REP1-007)
  - In Principle Sensitive Features Mitigation Plan, Revision B (REP1 – 012)
  - Benthic - Subtidal benthic characterisation survey report appendices (REP1-036)
  - Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 9 - Further information for Action Points 38 and 39 – Underwater Noise (REP1-020)
  - Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 10 – Further Information for Action Point 42 – Proximity to Marine Wildlife (REP1-028)
  - Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 13 – Further Information for Action Point 45 and 46 – Physical Processes and Benthic (REP1-030)



- Applicants Responses to Relevant Representations (REP1-017)

MMO comments on these documents are summarised below:

## **In Principle Sensitive Features Mitigation Plan, Revision B (REP1 – 012)**

### Benthic Ecology and Coastal Processes comments

- 4.2.1 The MMO acknowledges the Applicant's intention to conduct a preconstruction geophysical survey (side scan sonar or multibeam echosounder) to identify the presence of chalk reef, stony reef and *Sabellaria spinulosa* reef, which is to be followed by a drop-down video survey in the event of these habitats being confirmed.
- 4.2.2 The MMO recommends that where feasible, both side scan sonar and Multi-beam Echo Sounder methods are used together to collect more information including backscatter. This supports the use of drop-down video to confirm the presence of these features.
- 4.2.3 The MMO notes the Applicant's proposal to conduct a single post construction monitoring survey, only where chalk reef, stony reef and *S. spinulosa* reef are identified during the pre-construction survey and in the event that no stony reef or *S. spinulosa* reef are identified pre-construction, no post construction survey will be undertaken.
- 4.2.4 The MMO disagrees with this proposal and is of the belief that a single post construction survey will not constitute sufficient temporal monitoring for these habitats.
- 4.2.5 The MMO notes that only one single post-construction survey is proposed, and no timescale is given as to how soon after construction this survey will take place. No other post-installation surveys are proposed with regard to cable installation. The MMO would expect details of monitoring provisions in the event of further potential cable protection measures and after decommissioning, including the subsequent removal of any cable protection.
- 4.2.6 The MMO would expect additional years of monitoring to be conducted in the event that any affected habitats are identified as not having recovered by the initial post construction monitoring survey. The MMO would also expect this monitoring to be conducted for all potentially affected benthic habitats and not just those mentioned above.
- 4.2.7 The MMO is satisfied that the mitigation measures proposed in this document avoid direct impact of many of the sensitive benthic features identified in the habitat map (Figure 5-1, paragraph 5). The MMO considers this proposed mitigation acceptable.
- 4.2.8 The MMO agree with the mitigation measures proposed to help mitigate against impacts from physical processes, such as creating buffers from sensitive features and maximising cable burial to reduce need for secondary protection.

### Underwater Noise





- 4.2.9 This updated version does not contain any significant changes besides some amendments to Figure 2.1 and Figure 5.1 so no further comments have been provided at this time. Please refer to advice comments submitted in the MMO's s56 response.
- 4.2.10 Previous consultation with our technical advisors, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) concluded that at a high level this plan adequately captured the monitoring requirements for Underwater Noise (UWN). Construction noise monitoring should include measurements of noise generated by the installation of the first four piled foundations of each piled foundation type to be installed. Full specifications will be provided in the final monitoring plan.
- 4.2.11 The MMO notes that no further information has been provided on the potential impacts of UWN on seahorses as a feature of the Beachy Head West Marine Conservation Zone (MCZ) and Kingmere MCZ. The MMO understands that the Applicant is undertaking additional work to provide a comparison of the environmental conditions at the Proposed Development with other projects where Noise Abatement Systems (NAS) have been deployed, which will be submitted into examination. The MMO defers to NE on features of MCZs as the Statutory Nature Conservation Body (SNCB) but will maintain a watching brief on this matter.

### Fisheries

- 4.2.12 The MMO is generally content with the mitigation proposed to mitigate disturbance to nesting Black Sea Bream from export cable laying activities. The MMO maintain that restrictions on Export Cable Corridor works during the Black Sea Bream spawning and nesting season should be conditioned on the DML as 1st March – 31st July.
- 4.2.13 The MMO support the commitment outlined in C-265, that at least one offshore piling noise abatement technology will be utilised to reduce underwater noise propagation in order to mitigate predicted impacts to sensitive receptors. However, further evidence is needed to demonstrate that the application of multiple noise abatement measures can achieve the maximum noise reduction claimed by the Applicant.
- 4.2.14 Due to continuing concerns surrounding agreed behavioural thresholds, background noise levels and the demonstratable effectiveness of proposed noise abatement strategies, the MMO do not support a spatially zoned approach to piling.
- 4.2.15 Until such a time that the Applicant's modelling is deemed to accurately represent the likely range of behavioural impacts from UWN noise on Black Sea Bream, the MMO maintain our recommendation of a seasonal piling restriction from 1st March – 31st July inclusive in order to limit disturbance to adult spawning and nesting Black Sea Bream during their spawning and nesting period.
- 4.2.16 The current mitigation options outlined in the In Principle Mitigation Plan are designed to reduce the range of impact from UWN relative to Black Sea Bream, rather than being mitigation targeted towards protecting spawning adult herring, and their eggs and larvae. For this reason, and until clarification is provided on the efficacy and achievability of the proposed noise abatement reductions, the MMO recommend a



seasonal piling restriction from 1st November – 31st January inclusive in order to limit disturbance to adult spawning herring and their eggs and larvae during the spawning.

- 4.2.18 The MMO continue to disagree with the proposal that underwater noise monitoring should only be conducted for the first four piles, especially given the various piling scenarios and noise abatement measures proposed in the ES (Environmental Statement).

#### **Benthic - Subtidal benthic characterisation survey report appendices (REP1- 036)**

- 4.3.1 The MMO's technical advisors Cefas have reviewed this report and have no comments to make.

#### **Outline Fisheries Liaison and Co-existence Plan, Revision B (REP1-014)**

- 4.4.1 The MMO's technical advisors Cefas have reviewed this report and have no comments to make.

#### **Further information for Action Points 38 and 39 – Underwater Noise (REP1- 020)**

##### Fisheries comments

- 4.5.1 In relation to impacts ranges for UWN generated by piling in relation to Black Sea Bream nesting areas and the Kingmere MCZ, it is not clear if the modelling presented in Figures 6-1 and 6-2 has been based on a fleeing or stationary receptor. The MMO request that the Applicant confirms this.
- 4.5.2 Based on the behavioural characteristics of Black Sea Bream, the MMO would expect all modelling of UWN relating to Black Sea Bream to be based on a stationary animal model, an approach that is consistent with other Offshore Windfarm projects.
- 4.5.3 In Figure 3-4 displaying Herring Spawning Habitat Suitability Assessment, the Applicant's 'heat' scale ranges from 0 – 11 which is inconsistent with the 'heat' scale defined by the MarineSpace (2013) methodology, which ranges from 0 – 16. Whilst some layers may not occur in all regions, for example the Eastern Sea Fisheries Joint Committee (ESFJC) Fishing Grounds layer, they must not be omitted as the categorisation of 'heat' associated with mapping according to MarineSpace (2013) explicitly categorises 'heat' scores into four discrete intervals: 1-4 (low), 5-8 (medium), 9-12 (high), 13-16 (very high).
- 4.5.4 In Table 3-5 and Figure 3-4, it appears that the Applicant has omitted the ESFJC layer from their 'heat' map and also omitted vessel monitoring system (VMS) data as well. This represents a significant departure from the recommended 'heat' mapping approach and means the Applicant's 'heat' map may be underrepresenting the true extent and importance of herring spawning habitat. The MMO recommend that these assessments of Herring Habitat Suitability are reconducted to incorporate the recommended mapping approach as defined by the methodology of MarineSpace (2013).





- 4.5.5 The MMO would like to inform the Applicant that whilst MarineSpace (2013) represented the most current and appropriate 'heat' mapping methodology available when the Environmental statement was first drafted, an updated version of the methodology (Reach *et al.*, 2013) is now available. This method takes into account changes in data availability which have occurred since the original method was published and incorporates new data to enhance the 'heat' mapping process. The MMO advises the Applicant to be mindful of these changes and recommend that any future assessments of Habitat Suitability should be conducted using the updated methodology of (Reach *et al.*, 2013).
- 4.5.6 The Applicant has utilised the Coull *et al.* (1998) fisheries sensitivity maps data shapefiles as an indication of the location of spawning and nursery grounds for herring. These shapefiles provide an indication of where herring spawning grounds broadly occur, but should not be relied on as the sole indicator of herring spawning. This is because spawning areas are not rigidly fixed. Further, the data used to inform the shapefiles has not been updated since their production, meaning that environmental changes in the distribution of spawning sediments is not reflected. The shapefile is also unable to quantify the nuance of how spawning activity varies spatially.
- 4.5.7 It is more appropriate for the location of the active herring spawning grounds to be determined using International Herring Larval Survey (IHLS) data. IHLS data provide a direct measure of herring larval density (larvae per m<sup>2</sup>) across a standardised survey grid which is sampled annually, using appropriate protocols. Downs herring stock spawning activity varies spatially across the extent of the spawning ground, but also temporally through the spawning season (November to January inclusive).
- 4.5.8 The MMO do not support the characterisation of the Downs herring spawning ground using the Coull *et al.*, (1998) shapefiles alone, as doing so significantly under-represents the full spatial extent of the spawning ground and it is not appropriate, or supported, to discount the potential for behavioural impacts to adult herring based on this data.
- 4.5.9 In Figure 4-3 there is a significant overlap between the mitigated (-6 dB) and unmitigated behavioural response noise contours with areas of high and very high herring larval abundance. It is reasonable to assume that herring engaged in spawning activity are likely to exhibit behavioural responses during monopiling activities at the Rampion Extension site. The same can be said for multileg piling activities which also result in a significant overlap between the mitigated (-6 dB) and unmitigated behavioural response noise contours with areas of high and very high larval abundance, as can be seen in Figure 4-4.
- 4.5.10 The current mitigation options outlined in the In Principle Mitigation Plan are designed to reduce the range of impact from UWN relative to Black Sea Bream, rather than being mitigation targeted towards protecting spawning adult herring and their eggs and larvae. Until clarification is provided on the efficacy and achievability of the proposed noise abatement reductions the MMO maintain the recommendation of a seasonal piling restriction from November to January inclusive in order to limit disturbance to adult spawning herring and their eggs and larvae during the spawning period.



## Underwater Noise comments

- 4.6.1 Figures 4-1 to 4-4 displaying the potential impacts of underwater noise on herring from a range of piling methodologies show inconsistencies in the dB SELcum (Cumulative Sound Exposure Level) represented, with 135 dB, 186 dB and 210 dB being used in different figures.
- 4.6.2 For fish with swim bladders involved in hearing Popper *et al.*, 2014 sets hearing thresholds for mortality and potential mortal injury from pile driving as follows, mortality and potential mortal injury (210 dB SELcum), recoverable injury (203 dB SELcum) and temporary threshold shift (TTS) (186 dB SELcum). Herring as a hearing specialist qualifies under this criterion, so it would be beneficial for clarity and consistency if these thresholds could be included and used across all figures relating to UWN impacts on herring.
- 4.6.3 In reference to Figures 4-3 & 4-4, the MMO disagree with the Applicant's statement that there is no pathway for behavioural effects on spawning herring, as there is no significant infringement of the contour with the herring spawning ground. Both Figures 4-3 & 4-4 show significant noise overlap with high intensity spawning for the East piling location.
- 4.6.4 The Applicant maintains that a threshold of 141 dB SELss (Single Strike Sound Exposure Level) is a reasonable precautionary threshold for Black Sea Bream as supported by Kastelein *et al.* (2017). The MMO maintain that 135dB SELss as per Hawkins *et al.*, (2014) should be used as an appropriate behavioural threshold for Black Sea Bream. The MMO is aware that discussions on this topic are ongoing, and a threshold still needs to be agreed between all interested parties (the Applicant, MMO, Cefas and Natural England).

## **Fish and Shellfish (Figures) (REP1-007)**

- 4.7.1 In relation to impacts ranges for UWN generated by piling in relation to Black Sea Bream nesting areas and the Kingmere MCZ, Figure 8.18 presents impact range noise contours for sequential piling of multileg foundations at four locations, using dB SELcum values of 207 dB, 203 dB and 186 dB, and based on a stationary receptor.
- 4.7.2 With reference to Popper *et al.*, 2014 hearing thresholds for mortality and potential mortal injury from pile driving are as follows; mortality and potential mortal injury (210 dB SELcum), recoverable injury (203 dB SELcum) and temporary threshold shift (TTS) (186 dB SELcum). It is not known whether the presented modelling has been conducted using an incorrect value of 207 db SELcum as opposed to 210 db SELcum for mortality and potential mortality injury or if this represents a typographical error in the figure legend. This error is repeated in Figures 8.19 and 8.21 for noise generated for sequential mono-piling and simultaneous multi-leg piling respectively.
- 4.7.3 In each instance the MMO request that the Applicant confirm if a value of 207 dm SELcum was used in the presented modelling or if this is simply a written error. If this is an error, it should be corrected in the Figure legends to avoid future confusion.



- 4.7.4 There is no UWN modelling presented for the scenarios of simultaneous mono piling using the 210 dB, 203 dB and 186 dB (SELcum) thresholds. This figure should be presented alongside those of Figures 8.18, 8.19 and 8.21. It is unfortunate that at this advanced stage of examination, important evidence has not been provided.
- 4.7.5 No UWN modelling has been presented for simultaneous piling of multi-leg foundations, or for simultaneous mono-piling using the 135 dB SELss threshold in relation to Black Sea Bream. The MMO maintain, in line with our previous advice, that a threshold of 135 dB SELss, as per Hawkins *et al.*, (2014), should be used as a precautionary approach to modelling.
- 4.7.6 The MMO request that modelling for simultaneous piling of multi-leg foundations and for simultaneous mono-piling using the 135 dB SELss is provided in future submissions.
- 4.7.7 The MMO also request to see modelling of simultaneous piling of mono pile and multi-leg foundations presented to show the impact ranges for mortality and potential mortal injury (210 dB SELcum), recoverable injury (203 dB SELcum) and temporary threshold shift (TTS) (186 dB SELcum) in line with Popper *et al.*, 2014.

#### **Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 10 – Further Information for Action Point 42 – Proximity to Marine Wildlife (REP1- 028)**

- 4.8.1 The MMO acknowledge that a Construction Method Statement, as required under Deemed Marine Licence (DML) Condition 11(c) in Schedules 11 and 12 of the Draft Development Consent Order (DCO) (PEPD-009) will be produced, post-consent, prior to construction. This will include details of the procedures for soft start and ramp up of piling activity.
- 4.8.2 In addition, in compliance with Condition 11 of Schedules 11 and 12 of the DCO, a Piling Marine Mammal Mitigation Protocol (MMMP) and an Unexploded Ordnance (UXO) Clearance MMMP will delineate proposed mitigation measures aimed at minimising the risk of any physical or permanent auditory injury to marine mammals during piling and UXO clearance operations. These plans will encompass embedded mitigations, including details of soft-start procedures and control measures for UXO clearance.
- 4.8.9 The MMO welcome, that prior to construction, a detailed design of the Proposed Development will be completed, which will specify the foundation type and installation method, and the potential for significant disturbance to marine mammals will be determined. This will inform the need for further mitigation measures to minimise sound propagation and disturbance. If required, a comprehensive review will be undertaken to determine the most suitable and effective methods based on the latest available practices before construction commences. This will include a thorough examination of all suitable noise abatement measures at that time.

#### **Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 13 – Further Information for Action Point 45 and 46 – Physical Processes and Benthic (REP1-030)**





## Benthic Ecology

- 4.9.1 The MMO acknowledge that in response to Action Point 45 the Applicant has presented three cable protection options which are being considered for use and that these are, rock protection, concrete mattresses, and rock bags.
- 4.9.2 The MMO note that the Applicant has not yet committed to a chosen cable protection method and would like to keep all options available, as it is their view that the most appropriate design solution may evolve after the initial cable burial has taken place. The MMO notes the Applicant would like to maintain the above options for cable protection as is currently set out in the application and defined in the DCO.
- 4.9.3 The MMO note that in addition, the Applicant has not committed to removal of cable protection at decommissioning or the methods by which such decommissioning would be conducted as this would be subject to a separate licence application. Although the Applicant has not committed to the removal of cable protection at this time because the final methods have not been determined, the MMO is of the position that the final cable protection should be the form which minimises the environmental impacts as far as possible, and that consideration should be given to using the method which is most likely to be removable at decommissioning.
- 4.9.4 The MMO advise the Applicant to provide more detail on possible suppliers and specification of potential rock bags as the information provided at present is not sufficient enough to determine the potential environmental impacts associated with rock bags as a means of cable protection.
- 4.9.5 In response to Action Point 46, the MMO would like to thank the Applicant for providing further information on the use of gravel bags as an alternative to floatation pits as well as an assessment of their potential environmental impacts.

## Coastal Processes

- 4.9.6 The MMO welcome the Applicant's suggestion that, with regard to alternative cable protection methods, they will seek to find products which do not involve the use of plastics. The MMO note however, that the material being proposed for use in gravel bag beds is not mentioned in this document. Could the Applicant please provide this information?
- 4.9.7 The MMO would also like to see consideration given as to how plastic pollution associated with damage to these bags may be prevented, specifically in relation to damage to the bags occurring though installation and removal.
- 4.9.8 The MMO note that methods for the installation and removal of gravel bags is not provided in this document and that this information is required to appropriately assess the potential impacts associated with this activity.
- 4.9.9 The MMO notes the Applicant's statement that "Installation of the gravel bag beds would be completed one month prior to the planned date of the cable pull in works". Please could the Applicant provide clarity on why this time period has been proposed



and what consideration, if any has been given to the potential impacts of different time periods? The MMO recommend that gravel bags are in place for as short a time as possible.

## **MMO Response to Applicant's comments on MMO Relevant Representations (REP1-017)**

### Coastal Processes comments

- 4.10.1 4.2.6: The Applicant's response does not fully address the question posed regarding the use of a 'jetter'. Whilst the Applicant has confirmed that a 'jetter' includes the use of a Continuous Flow Device (CFD) they have not stated whether the potential impact of this CFD has been included in the assessment.
- 4.10.2 4.2.13 & 4.2.14: The MMO acknowledges and accepts the Applicants justification for not providing/creating new of potential impact . However, the MMO would still prefer to see information present in terms of changes in tidal currents and sediment currents with cumulative projects.

### Benthic Ecology comments

- 4.10.3 4.3.3: The Applicant's response does not address the issue that the information presented in Table 9-14 Chapter 9 of the ES still contradicts the statement concerning habitat function in the preceding text. Table 9-14 still does not list any species considered to have an important functional presence and whilst further information on the sensitivity of each biotope is presented in Chapters 9-9 to 9-11, there is no information in these chapters on the functional roles of the habitats. The MMO suggest that these sentences be rephrased to avoid any further confusion.
- 4.10.4 4.3.4: The MMO note that the Applicant's categorisation of the biotope sponges and anemones as 'not sensitive' to heavy smothering is acceptable given that this statement refers to this biotope occurring on vertical rock and that this biotope has only been predicted to occur, having not been identified during drop down camera survey.
- 4.10.5 The MMO note that whilst it may disagree with the categorisation of certain biotopes assessed by Marine Evidence Based Sensitivity Assessment (MarESA) as having 'low' sensitivity, given that they are characterised by species that are sensitive to suspended sediment concentration (SSC), the Assessment Confidence for some of these biotopes is listed as 'low confidence'.
- 4.10.6 The MMO consider the categorisation of these biotopes acceptable, providing the Applicant can confirm that this uncertainty and lack of confidence in the MarESA assessments is taken into account in the final assessment for potential impacts on these habitats.
- 4.10.7 4.3.5: The MMO acknowledge that whilst SSC and smothering have been defined separately in the MarESA sensitivity tables that they should not be combined into a single pressure. The MMO still consider that the potential impact of these two



pressures should be assessed separately as part of any impact assessment due to the differences in the mechanism by which each pressure affects benthic organisms.

#### Fisheries comments

- 4.10.8 4.6.28, 4.6.39 & 4.6.48: The MMO acknowledge the Applicant's commitment within the In-principle Sensitive Features Mitigation Plan to a seasonal restriction to ensure that Offshore Export Cable Corridor installation activities are undertaken outside the Black Sea Bream breeding period (March-July) to avoid any effects from installation works on Black Sea Bream nesting within or outside of the Kingmere MCZ.
- 4.10.9 The MMO support this commitment and request that it be conditioned within the DML that no Offshore Export Cable Corridor activities (including construction, operation and decommissioning) are permitted to take place during 1st March – 31st July inclusive. This condition should be made applicable during the full duration of the DML and including construction, operation and post-construction.
- 4.10.10 4.6.28: The MMO support the Applicant's commitment to mitigation measures proposed to minimise the impacts of Cable Installation activities on seabed habitats including, those with the potential to support Black Sea Bream nesting. These measures include minimising cable route distances, the use of offshore export cable laying techniques and maintaining a working separation distance from sensitive features.
- 4.10.11 4.6.21- 4.6.27: The MMO note that no new evidence or data has been provided to justify the continued proposed suitable behavioural response threshold for Black Sea Bream of 141 SELss based on Kastelein *et al.* (2017).
- 4.10.12: The MMO has previously outlined, most recently in section 7.1.6 of our Deadline 2 Response, that it does not support the use of a threshold of 141SELss for Black Sea Bream. The MMO maintain, in line with our previous advice, that the threshold of 135 dB SELss, as per Hawkins *et al.*, (2014), should be used as a precautionary approach to modelling.
- 4.10.13 4.6.34: The MMO note the Applicant's response confirming that the UWN contours for simultaneous mono-piling will be included in a technical note that will be submitted to the Examining Authority in due course.
- 4.10.14 As mentioned previously, the MMO also request sight of modelling of simultaneous piling of mono pile and multi leg foundations presented to show the impact ranges for mortality and potential mortal injury (210 dB SELcum), recoverable injury (203 dB SELcum) and temporary threshold shift (TTS) (186 dB SELcum) in line with Popper *et al.*, 2014.
- 4.10.15 4.6.36: Regarding the significant overlap of behavioural effects noise contours for sequential mono-piling and the Downs herring spawning ground in Figure 8.20 of the ES., the Applicant has retained their position as stated in paragraph 8.9.195 of the ES that, as the UWN contours did not directly overlap with the spawning grounds as indicated by the Coull *et al.* (1998) shapefile, they considered the magnitude of a





behavioural impact to spawning herring from UWN was negligible. The MMO disagree with this assessment.

### Underwater Noise comments

4.11.1 Appendix 11.3 Underwater noise technical report - Section 3.1: The MMO acknowledge the Applicant's explanation for the inclusion of SEL<sub>peak</sub> values. The MMO request that SEL<sub>ss</sub> values are included in future iterations of this document as offered by the Applicant.

4.11.2 Appendix 11.3 Underwater noise technical report – Table 5-2: It appears the Applicant's response here is potentially in relation to another query. The response given relates to operational turbine noise whilst Table 5-2 pertains to other continuous noise sources.

4.11.3 4.7.8: The MMO note the Applicant's acknowledgement of the many uncertainties associated with fish fleeing speed but would reiterate our caution around the use of strong statements such as "highly precautionary" given the recognised levels of uncertainty.

4.11.4 4.7.10: The MMO acknowledge the Applicant's explanation for the classification of marine mammals within the ES as having low sensitivity to Permanent Threshold Shift (PTS). The MMO still disagree with this classification and believe that marine mammals should be classified as having high sensitivity to PTS but recognise the disagreement on this issue will go unresolved until empirical evidence can be provided to support either opinion.

4.11.6 4.7.20 & 4.7.21: The MMO thank the Applicant for acknowledging that further empirical evidence is required to assess proposed noise abatement technologies. The MMO note that any final mitigation will need to be agreed with the MMO, Cefas and Natural England.

4.11.7 MMO Points 5.7.3 & 5.7.8: The MMO thank the Applicant for referencing the modelling that has been conducted to assess proposed noise abatement technologies in relation to clearance of Unexploded Ordnance (UXO). The MMO note that any final mitigation will need to be agreed with the MMO, Cefas and Natural England.

4.11.8 5.7.9 & 5.7.10: The MMO acknowledge the Applicant's explanation of their reasoning for a behavioural noise threshold of 141 db SEL<sub>ss</sub>. The MMO recognise that that point will not be resolved until a suitable behavioural noise threshold is agreed between the Applicant, the MMO, Cefas and Natural England.

## **5. MMO Comments on Applicant's Submissions received at Deadline 2**

5.1.1 The MMO has consulted with our technical advisors and reviewed the following documents submitted at Deadline 2:

- 6.3.9 ES Volume 3 Chapter 9 Benthic, subtidal and intertidal ecology - Figures Rev B (REP2-010)





- 6.4.8.3 ES Volume 4 Appendix 8.3 Underwater noise study for sea bream disturbance Rev B (REP2-011)
- 8.42.1 Appendix 1 Marine Mammals Clarification Note Rev A (REP2-019)
- Marine Plan and Policies Statement (REP2-027)

5.1.2 The MMO has not provided comments on the Applicant's Response to Prescribed Consultee's Written Representations in this deadline response (REP2-030). The MMO will include our detailed review of this at deadline 4.

## **Benthic, subtidal and intertidal ecology (REP2-010)**

### Benthic Ecology

5.2.1 The MMO has addressed the information presented in this document in our Benthic Ecology considerations of action points and relevant representation responses in Section 4.

## **Underwater noise study for sea bream disturbance Rev B (REP2-011)**

5.3.1 Major issues identified from previous MMO advice on the Applicant's Black Sea Bream Underwater Noise Technical Note have not been addressed in this document. No new evidence or justification has been provided to address the comments raised in Sections 7.1.13 – 7.1.17 of our Deadline 2 response relating to concerns about the lack of explanation on the conversion of 141 dB SELs into 148 dB SPLrms; when considering that the difference between impulsive vs continuous noise sources.

5.3.2 The data presented in this document relates to a background noise study at Kingmere MCZ that was carried out in between 4th and 19th July 2022, this data has seemingly not been updated since the initial review of this document conducted in 2022. A number of limitations were identified with this 2022 monitoring survey which were stated at the time and it is unclear as to why the information presented in this document has not been updated to reflect the more recent noise monitoring survey conducted between 8th March and 15th August 2023 which was assessed as part our Deadline 2 response. Following a call with the Applicant, Cefas and the MMO on 19<sup>th</sup> April 2024, the MMO is awaiting further information from the Applicant to resolve this point. The MMO will provide further comment on this in our next deadline response.

5.3.3 The MMO request that the Applicant update the information in this document to reflect the most recently conducted 2023 monitoring survey or address the issues previously raised with 2022 data.

5.3.4 The MMO maintains the opinion that a seasonal piling restriction of March to July, inclusive is required to prevent disturbance from UWN to nesting and spawning Black Sea Bream. Until such a time that the Applicant can demonstrate that their modelling accurately represents the likelihood of potential impacts to Black Sea Bream with regard to agreed behavioural thresholds, background noise levels and demonstratable achievability of noise reduction from proposed mitigation.



## Marine Mammals Clarification Note Rev A (REP2-019)

- 5.4.1 This document was produced primarily to address Action Points arising from Natural England's Relevant Representations and as such, the MMO defer largely to Natural England advice on whether this document adequately addresses the issues raised.
- 5.4.2 The MMO note that this document contains an updated quantitative impact assessment for piling to reflect the revised Management Units and updated density estimates.
- 5.4.3 The MMO acknowledge that the assessment of noise disturbance appears to use a species-specific dose-response approach, wherein noise contours at 5 dB intervals were generated by noise modelling and overlaid on to species density surfaces to predict the number of animals potentially disturbed. The MMO considered this approach to modelling appropriate.
- 5.4.4 The MMO note in Section 3 that the Applicant states that in relation to disturbance from piling "TTS-onset impact ranges were all <100m. This would impact <1 dolphin". The MMO would like to reiterate the point that TTS and disturbance are not analogous and should not be used interchangeably. TTS typically occurs at much higher sound exposures than the onset of behavioural disturbance and so if behavioural disturbance is assumed to occur only at sound exposures where TTS would occur, this is likely to significantly underestimate the risk of disturbance.

## Marine Plan and Policies Statement (REP2-027)

- 5.5.1 The MMO thank the Applicant for providing REP2-027 in response to comments provided in our Relevant Representation.
- 5.5.2 The MMO has reviewed this document in full and acknowledges the Applicant's efforts to ensure that the proposed development is in line with all relevant marine policies. The below policies require further attention:
- 5.5.3 S-INF-1: The MMO consider this policy relevant, and therefore it should be scoped in as the proposed development contains land-based infrastructure which facilitates marine activity (WTGs).
- 5.5.4 S-CAB-2: The MMO consider this policy relevant, and therefore it should not be scoped out of the assessment. Even though Rampion 2 is not a subsea cable proposal, the Climping landfall site should still be assessed here.
- 5.5.1 S-AGG-4: The MMO acknowledge that the source of marine aggregates will not be determined until the Final Scour Protection Cable and Protection Plan is completed, which will be reviewed by the MMO.

## 6. Intention to Attend ISH2 Hearing

- 6.1 Rampion 2 Offshore Wind Farm (PINS ref: ENO0117).



The MMO requests to speak on the topic of the DCO/DML at the ISH2 Hearing on May 15<sup>th</sup>, 2024. The MMO has instructed counsel to make representations on the MMOs position at this hearing, primarily in relation to Article 5, but may also include representation on other points (Force Majeure, Paragraph 9, and condition 3(5)). The MMO intend to virtually attend the hearing to make the above oral representation along with the attendance of counsel. This is the only oral representation the MMO will be making, and due to high workload across other projects the MMO case team regret that we cannot attend the full day but do wish to speak on the above-mentioned point. The MMO request that the DCO be early on in the agenda so that the case team can make an oral representation and then leave.

The Rule 13 letter sent on 11<sup>th</sup> April 2024 does not specify which topics are being discussed at ISH2, and therefore the MMO would be grateful to receive confirmation that the DCO/DML will be on the agenda for the hearing.

Harriet Tyley, the Case Manager will be attending ([REDACTED] [@marinemanagement.org.uk](mailto:[REDACTED]@marinemanagement.org.uk)) virtually, as well as counsel from the Kings Chambers. The MMO will be referring to REP2-003, and potentially the following documents, REP1- 017 and REP2- 026. The MMO will notify the ExA if additional documents are likely to be referred to prior to the hearing.

Yours faithfully

[REDACTED]

Ethan Lakeman  
Marine Licensing Case Officer

D [REDACTED]  
E [REDACTED]@marinemanagement.org.uk

## References

Coull, K.A., Johnstone, R., and S.I. Rogers. (1998). Fisheries Sensitivity Maps in British Waters. Edition 1. Produced for Cefas.

Hawkins, A.D., Roberts, L. and Cheesman, S. (2014). Responses of free-living coastal pelagic fish to impulsive sounds. Journal of the Acoustic Society of America, 135(5), pp. 3101–3116.



Kastelein, R.A., Jennings, N., Kommeren, A., Helder-Hoek, L. and Schop, J. (2017). Acoustic dose-behavioral response relationship in sea bass (*Dicentrarchus labrax*) exposed to playbacks of pile driving sounds. *Marine environmental research*, 130, pp.315-324.

MarineSpace Ltd, ABPmer Ltd, ERM Ltd, Fugro EMU Ltd and Marine Ecological Surveys Ltd, (2013). Environmental Effect Pathways between Marine Aggregate Application Areas and Atlantic Herring Potential Spawning Habitat: Regional Cumulative Impact Assessments. Version 1.0. A report for the British Marine Aggregates Producers Association.

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.L., Løkkeborg, S., Rogers, P.H., Southall, B.L., Zeddis, 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 and registered with ANSI. January 2014.

Reach I.S., Latta P., Alexander D., Armstrong S., Backstrom J., Beagley E., Murphy K., Piper R. and Seiderer L.J., 2013. Screening Spatial Interactions between Marine Aggregate Application Areas and Atlantic Herring Potential Spawning Areas. A Method Statement produced for BMAPA.

