



Marine Management Organisation

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

T +44 (0)300 123 1032
www.gov.uk/mmo

Wendy McKay
North Falls Lead Panel Member
North Falls Offshore Wind Farm Case
Team
Planning Inspectorate
NorthFalls@planninginspectorate.gov.uk
(Email only)

MMO Reference: DCO/2021/00002
Planning Inspectorate Reference: EN010119
Identification Number: 20051047

28 March 2025

Dear Wendy McKay,

Planning Act 2008, Proposed North Falls Offshore Wind Farm Project Order Additional Submission

On 22 August 2024, the Marine Management Organisation (the “MMO”) received notice under section 56 of the Planning Act 2008 (the PA 2008”) that the Planning Inspectorate (“PINS”) had accepted an application made by North Falls Offshore Wind Farm Ltd, (the “Applicant”) for determination of a development consent order for the construction, maintenance and operation of the proposed North Falls Offshore Wind Farm Project (the “DCO Application”) (MMO ref: DCO/2021/00002; PINS ref: EN010119).

The DCO Application seeks authorisation for the construction, operation and maintenance of North Falls Offshore Wind Farm (the ‘Project’ or ‘North Falls’): an offshore generation station with a capacity exceeding 100 megawatts (MW) comprising up to 57 wind turbine generators together with associated onshore and offshore infrastructure and all associated development.

Three Deemed Marine Licences (DML) are included in the draft DCO. One in relation to generation assets and two in relation to transmission assets. One in relation to Wind Turbine Generators (WTG) and Associated Infrastructure, and one for Offshore Substation Platforms and Interconnector Cables.

As a marine licence has been deemed within the draft DCO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement, and revocation of provisions relating to the marine environment. As such, the MMO has an interest in ensuring that provisions are drafted in a DML that enable the MMO to fulfil these obligations.

This document comprises the MMO’s additional submission after Deadline 3.



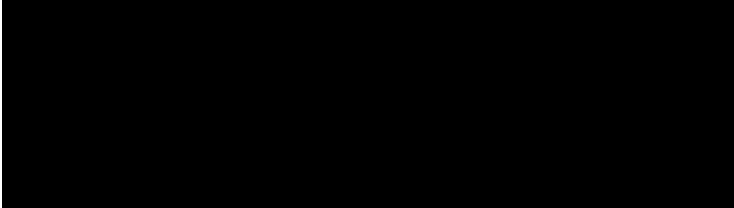
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This written representation is submitted without prejudice to any future representation the MMO may make about the DCO Application throughout the examination process. This representation is also submitted without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or for any other authorisation relevant to the proposed development.

Yours Sincerely,

A large black rectangular redaction box covering the signature area.

Marine Licensing Case Officer

A black rectangular redaction box covering the name of the Marine Licensing Case Officer.

@marinemanagement.org.uk

Copies provided to:

Marine Licensing Senior Case Manager – @marinemanagement.org.uk

Marine Licensing Case Manager - @marinemanagement.org.uk

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1. Comments deferred to Deadline 3 at Deadline 2 (REP2-043)

1.1 The MMO's comments deferred to Deadline 3 at Deadline 2

- 1.1.1. The MMO notes that at Deadline 2 there were several comments the MMO deferred comment to Deadline 3. As noted in the Deadline 3 submission (REP3-056), the MMO planned to provide an update to the Applicant week commencing 24 March 2025 and alongside this would submit this into the Examination as an additional submission, noting it may not be accepted. If this is not accepted it will be added to our Deadline 4 response.

Table 1. MMO Responses to Applicant's Deadline 1 Submission (REP1-045)

Applicant's Reference	Relevant Representation Comment	Applicant's Response	MMO's Deadline 3 Response
Draft DCO/DML			
MMO-53	<p>Part 7 - Miscellaneous and general</p> <p>Abatement of works abandoned or decayed 44.</p> <p>Where any of the offshore works or all of them or any part of them, is abandoned or allowed to fall into decay the Secretary of State may, following consultation with the undertaker, issue a written notice requiring the undertaker at its own expense either to repair, make safe and restore one or any of those Works, or any relevant part of them, or to remove them or any relevant part and, without prejudice to any notice served under section 105(1) of the 2004 Act restore the site to a safe and proper condition, to such an extent and within such limits as may be specified in the notice.</p> <p>The MMO advises this condition is updated to say the undertaker must ensure they also obtain the necessary consents.</p>	<p>This Article provides for the Secretary of State serving a notice on the undertaker to repair, make safe, or restore works which have been abandoned or have been allowed to fall into decay. The Article of the DCO, once granted, along with the notice provided by the Secretary of State, form the necessary consent to carry out the works.</p> <p>To require a further consenting process misunderstands the purpose of the Article, which is to ensure that works permitted under the DCO are maintained and any state of disrepair which is unacceptable to the Secretary of State is promptly remedied.</p> <p>The drafting provided in the dDCO is well-precedented, and was recently approved by the Secretary of State at article 38 of the Sheringham Shoal and Dudgeon Extension Projects Offshore Wind Farm Order 2024 and at article 41 of the Hornsea Four Offshore Wind Farm Order 2023.</p>	<p>The MMO notes the Applicant's response and has no further comments and considers this matter closed.</p>
MMO-57	<p>Part 1 - Licenced Marine Activities interpretation</p> <p>Titles For DML 1 – DML 3</p> <p>'Marine Licence...'</p>	<p>The DMLs set out at 19s 8 – 10 of the dDCO are described as deemed marine licences in the titles of those Schedules and in Article 36 of the dDCO as requested by the MMO. The Applicant considers any further numbering of the DMLs (1 – 3) to be potentially confusing with the scheduling</p>	<p>The MMO notes the Applicant's response and is content with referring to the DMLs by the Schedule Number.</p>

	Throughout the DCO and DMLs all the definitions and titles must be updated to state the 3 DMLs are 'Deemed Marine Licences'. E.g. '(Deemed Marine Licence 1: North Falls Offshore Wind Project Generation Assets –)'. This is to ensure accuracy.	numbers, and not in accordance with drafting precedent for offshore wind farms.	
MMO-58	<p>Part 1 - Licenced Marine Activities interpretation</p> <p>For DML 1 – DML 3</p> <p>“authorised deposits” means the substances and articles specified in paragraph 4 of this licence;</p> <p>The MMO requests this is updated to clarify that the materials need approval by the MMO in order to be deposited.</p>	The Applicant considers this update to be inappropriate. To require additional approval by the MMO would mean that certain elements of the DMLs are not deemed to be approved by the grant of consent by the Secretary of State. This would run contrary to Parliament’s intention expressed in section 149A of the Planning Act 2008, which allows for marine licences to be deemed to be granted, without the need for a separate licensing process, if included in a development consent order granted by the Secretary of State.	The MMO is the one who designates the disposal site. However, as we are in discussions to process this designation to include this within the DML conditions and paragraph 4 then this interpretation will not need updated.
MMO-59	<p>Part 1 - Licenced Marine Activities interpretation</p> <p>For DML 1 – DML 3</p> <p>“cable protection” means physical measures for the protection of cables including but not limited to concrete mattresses, split pipe system, and/or rock placement (including material used for cable crossings);</p> <p>The MMO requests the condition wording is updated to the below to ensure that the reason why cable protection is being used is clear. “cable protection” means measures for offshore cable crossings and where cable burial is not possible due to ground</p>	The Applicant notes the MMO’s request, but also notes that the reasons why cable protection might be used is described in the DCO application and in the Environmental Statement. From a legal DCO drafting standpoint, the addition requested is unnecessary and would serve no useful purpose. The Applicant is not aware of any such provision in any offshore wind DCO or DML.	The MMO notes the Applicant’s response and is content with the cable protection definition provided by the Applicant.

	conditions or approaching offshore structures, to protect cables forming part of the authorised scheme from physical damage and exposure due to loss of seabed sediment including, but not limited to, rock placement, concrete mattresses with or without frond devices, protective aprons or coverings, bagged solutions filled with sand, rock, grout or other materials and protective shells;”.		
MMO-65	<p>Part 2 – Conditions – Maintenance of the authorised development</p> <p>DML 1: Condition 12 (4) DML 2: Condition 13 (4) DML 3: Condition 12 (4)</p> <p>The MMO requests the wording of these conditions are updated to the following wording:</p> <p>(4) XXXX must not commence until an Offshore Operations and Maintenance Plan (OOMP) has been submitted to and approved by the MMO in accordance with the ‘Outline Offshore Operations and Maintenance Plan’ in writing. The OOMP must include, but is not limited to—</p> <p>(a) a list of maintenance activities within the marine environment that are planned for the lifetime of the licensed activities;</p> <p>(b) details of the typical construction plant, machinery and personnel requirements for each maintenance activity and any requirements for detailed method statements;</p>	<p>The Applicant notes that the details requested for inclusion in the OOMP in the proposed drafting are already provided for in the Outline OOMP [APP-255]. The current drafting of this condition in the dDCO means that these details would need to be included in the OOMP, which is required to be “substantially in accordance with the outline offshore operations and maintenance plan”.</p> <p>The drafting provided in the dDCO is well-precedented – see, for example, the Sheringham Shoal and Dudgeon Extension Projects Offshore Wind Farm Order 2024 (Schedule 11, Part 2, Condition 13(1)(f)), the Hornsea Four Offshore Wind Farm Order 2023 (Schedule 11, Part 2, Condition 4(4)), and the East Anglia TWO Offshore Wind Farm Order 2022 (Schedule 13, Part 2, Condition 17(1)(h)).</p> <p>The Applicant therefore does not agree that the MMO’s proposed revision is necessary.</p>	<p>The MMO would highlight that not all the information requested in the updated condition in (4) a-d is clearly stated within the outline plan (REP3-025/6). If this is updated within the plan the MMO would request that the condition only needs to be updated to the following:</p> <p><i>(4) An operations and maintenance plan substantially in accordance with the outline offshore operations and maintenance plan must be submitted to the MMO for approval in consultation with the relevant SNCB at least six months prior to the</i></p>

	<p>(c) details of the typical frequency and timing of each maintenance activity; and</p> <p>(d) details of controls and mitigation that will be in place in order to protect the marine environment.</p> <p>(4) The OOMP must be reviewed every three years commencing from the date on which the OOMP was approved, unless otherwise agreed by the MMO, to ensure the details of the maintenance activities remain accurate. The conclusions of that review must be submitted to and approved by the MMO in writing.</p> <p>(5) The OOMP must be implemented as approved by the MMO.</p> <p>(6) Unless otherwise agreed in writing with the MMO, the undertaker must submit—</p> <p>(a) the first OOMP at least 6 months prior to the proposed commencement of the works;</p> <p>(b) the updated OOMPs in paragraph (2), at least 6 months before such revised OOMP is required to be put in place; and</p> <p>(c) any updated OOMP covering additional activities as soon as possible after the need for such additional activities is identified.</p>		<p><i>commencement of operations and must provide for review and resubmission every three years during the operational phase.</i></p> <p><i>5) All operation and maintenance activities must be carried out in accordance with the plan approved under sub-paragraph (4).</i></p>
MMO-66	<p>Extension of time periods</p> <p>DML 1: Condition 14</p> <p>DML 2: Condition 15</p>	The Applicant notes that comments under 3.2.1 – 3.23 relate to Unexploded Ordnance (UXO).	The MMO notes the Applicant's response and although doesn't agree with it being included is

	<p>DML 3: Condition 14</p> <p>The MMO requests this condition is removed from all the DMLs. Please see comments under 3.2.1-3.2.5 Determination dates.</p>	<p>Paragraphs 3.2.4 and 3.2.5 are not included in the MMO's representation.</p> <p>It is the Applicant's position that this condition should be detained in all three DMLs. It is well-precedented and operates to allow extension of timeframes applying to both the undertaker and the MMO with consent of the other party. This therefore avoids arbitrary deadlines when parties are agreed an extension is necessary, and operates to the benefit of both the Applicant and the MMO.</p>	<p>content it can remain and has no further comments.</p>
MMO-67	<p>Notifications and inspections</p> <p>DML 1: Condition 15 (1) (b) DML 2: Condition 16 (1) (b) DML 3: Condition 15 (1) (b)</p> <p>The MMO requests this section of the condition is removed. It is the undertaker's responsibility to notify the MMO.</p>	<p>This condition requires the undertaker to provide copies of the marine licences to agents, contractors and vessel masters and offshore operations managers. It is the undertaker's responsibility to provide the MMO with details of these agents, contractors and vessel masters and offshore operations managers. This condition requires those agents, contractors and vessel masters and offshore operations managers to confirm to the MMO that they have received a copy of the marine licence (and any variations). It remains the undertaker's responsibility to ensure that a copy of the marine licence is held on board any vessel being used to carry out the licensed activities, and has been read and understood by the masters of those vessels.</p> <p>The Applicant does not propose to remove this condition. It does not detract from any responsibility of the undertaker. Rather, it provides an added layer of confirmation to</p>	<p>The MMO welcomes the clarification. However, the MMO would ask how the confirmation would be provided? Only the undertaker can access the Marine Case Management System where this document would need to be submitted to as this ensures transparency. The MMO suggests that it is the undertaker who gathers the confirmation and provides this as part of the condition not those who receive this. This has previously been done with a signed document of receipt by those</p>

		reassure the MMO that the undertaker has complied with its obligation to provide copies of the marine licence.	identified submitted by the undertaker.
MMO-68	<p>Notifications and inspections</p> <p>DML 1: Condition 15 (6) DML 2: Condition 16 (6) DML 3: Condition 15 (6)</p> <p>The MMO should be notified upon commencement and completion of any part of the licensed activities, particularly when works are being undertaken in phases. The MMO requests the condition is updated to:</p> <p>(6) The undertaker must inform the MMO Local Office in writing at least 14 days prior to the commencement of the licensed activities or any part of them including providing a programme of works for future activities and within five days of the completion of the licensed activities or any part of them.</p>	<p>The Applicant considers these amendments to be unnecessary. The time period of 5 days is standard including in the most recent Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024 and the Hornsea Four Offshore Wind Farm Order 2023 and there is no valid administrative reason to increase the administrative burden on the Applicant. The Applicant also considers the provision of a programme of works to be unnecessary as this would create additional administrative burden for both the undertaker and the MMO, for little to no benefit, seeing as notification is required before the start of licensed activities in any event. Furthermore, the details of the programme of works will already have been provided to the MMO in the pre-construction plans and documentation conditioned in each of the DMLs (see Schedule 8, Part 2, Condition 21; Schedule 9, Part 2, Condition 22; Schedule 10, Part 2, Condition 22). Adding a requirement for a programme of works for future activities with each notification is unnecessary.</p>	<p>The MMO notes the Applicant's comments and agrees that the programme of works can be removed</p> <p>However, the timescale of 14 days should be updated. This request has come directly from the MMO enforcement officers, who have advised that since the offshore wind projects are larger in size and have the DMLs have more conditions, 5 days is not enough time to complete the planning and arrange a time with the undertaker for any compliance inspection. Therefore, the MMO maintains the position that this condition should be updated.</p>
MMO-70	<p>Notifications and inspections</p> <p>DML 1: Condition 15 (10)</p>	<p>The condition provides that the undertaker "<i>must make such notifications to the UK Hydrographic Office of the progress of the licenced activities as</i></p>	<p>The MMO notes the Applicant's response. The MMO has reviewed a</p>

	<p>DML 2: Condition 16 (10) DML 3: Condition 15 (10)</p> <p>This condition states the undertaker must notify the UK Hydrographic Office (UKHO) of the progress of the licensed activities. The Applicant should clarify the reporting timeframe and what progress (stages) will require a notification. If this is agreed in a plan, this plan should be referenced and the condition the plan will be approved under.</p>	<p><i>are reasonably required in order that all necessary amendments to nautical and aeronautical charts are made</i>". This requires the exercise of professional judgment in the context of the ongoing works, to ascertain whether amendments are necessary to nautical and aeronautical charts. Replacing this with a specified timeframe would be arbitrary and would not allow for the exercise of professional judgment, which would not serve the ultimate intention of the condition in ensuring that nautical and aeronautical charts are updated and fit for purpose. The Applicant's position is that the MMO's proposed revision is not necessary, noting this is in addition to the requirement to notify the commencement and completion of the licensed works.</p>	<p>number of conditions with MCA, TH and UKHO and believes that this condition should be updated to the following:</p> <p><i>"The undertaker must notify the UK Hydrographic Office both of the commencement (ten days prior), progress and completion of construction (within ten days) of the licensed activities in order that all necessary amendments are made to nautical charts. Copies of all notices must be provided to the MMO and MCA within five days."</i></p>
MMO-72	<p>Notifications and inspections</p> <p>DML 1: Condition 15 (13) DML 2: Condition 16 (13) DML 3: Condition 15 (13)</p> <p>'The undertaker must notify the MMO in writing a minimum of five days in advance of the commencement of each discrete incident of cable repair, replacement, or protection replenishment activity. Such a notification must include proposed</p>	<p>The Applicant considers its proposed timescales are appropriate, and well preceded e.g. in the Hornsea Four Offshore Wind Farm Order 2023. The other amendments sought are also not required as the terms referred to are included in the definition of maintenance works provided at Condition 12(2) (or Condition 13(2) in respect of Schedule 9). Cable repair, replacement, or protection replenishment activity are all assessed in the EIA (see document APP-019 3.1.7</p>	<p>The MMO notes the Applicant's response and as per the response to MMO-68, these comments are also relevant to the operational phase.</p>

	<p>timings and a description of proposed methodologies.'</p> <p>The MMO requests this is updated to "at least 14 days prior to the commencement"... In addition, the condition should clearly define repair, replacement, and protection replacement. This should be defined under maintain and linked to the Outline Offshore Operations and Maintenance Plan (OOOMP) or those assessed in the Environmental Statement. We consider that these works should be restricted to those that have been assessed and consented and the definition should clearly demonstrate this.</p>	<p>Environmental Statement Chapter 5 Project Description). The operations and maintenance plan will be submitted for approval pursuant to the DMLs and all operation and maintenance activities must be carried out in accordance with the approved plan – providing the MMO with control over the authorised maintenance activities.</p>	
MMO-73	<p>Colouring of Structures</p> <p>DML 1: Condition 17 DML 2: Condition 18 DML 3: Condition 17</p> <p>The MMO recommends the wording is updated to: 'The undertaker must paint all structures forming part of the authorised scheme yellow (colour code RAL 1023) from at least HAT to the height agreed in writing with Trinity House. The undertaker must paint the remainder of the structures grey (colour code RAL 7035). Requests to change the colouring of the structure must be submitted to the MMO in writing and must not be undertaken unless approved in writing by the MMO'.</p>	<p>The Applicant notes that the MMO's proposal is already provided for in the conditions as currently included in the dDCO, which read as follows:</p> <p><i>Colouring of structures</i></p> <p><i>17.—(1) The undertaker must colour all structures yellow (colour code RAL 1023) from at least highest astronomical tide to a height directed by Trinity House, or must colour the structure as directed by Trinity House from time to time.</i></p> <p><i>(2) Subject to paragraph (1) above, unless the MMO otherwise directs, the undertaker must ensure that the wind turbine generators are painted light grey (colour code RAL 7035).</i></p>	<p>Noted. The MMO has no further comments.</p>
MMO-74	<p>Aviation Safety</p> <p>DML 1: Condition 18 DML 2: Condition 19</p>	<p>The appropriate place for this condition is in the DMLs as it relates to lighting of licensable activities carried out under the DMLs. The condition provides for notification to the Defence</p>	<p>The MMO acknowledges this response and has no further comments at this time.</p>

	<p>DML 3: Condition 18</p> <p>The MMO requests this condition is removed and included in the DCO as the Defence Infrastructure Organisation Safeguarding and Civil Aviation Authority can review this through the DCO requirements.</p>	<p>Infrastructure Organisation Safeguarding, the Civil Aviation Authority and the MMO.</p>	
MMO-75	<p>Chemicals, Drilling and Debris</p> <p>DML 1: Condition 19 (2) DML 2: Condition 20 (2) DML 3: Condition 19 (2)</p> <p>It should be noted that any paints coatings and chemicals with a pathway to the marine environment should be approved by the MMO prior to use. Part 2 section 12 also allows the undertaker at any time to maintain the authorised scheme at (b) allows for “Painting and applying other coatings to wind turbine generators or offshore accommodation platforms”, as these may also contain plastics. Coatings and paints under OSPAR guidance should have their properties known and therefore should be notified to the MMO for approval prior to use. Therefore, the condition 13 (2) wording should be amended to reflect OSPAR guidance.</p>	<p>The Applicant is not aware of any precedent for the drafting the MMO is referring to, and no change is proposed to the drafting. If the MMO would like specific guidance referred to then the Applicant welcomes details of that guidance to be provided.</p>	<p>The MMO provided its position on chemicals in Section 4 of REP3-056.</p>
MMO-77	<p>Chemicals, Drilling and Debris</p> <p>DML 1: Condition 19 (5) DML 2: Condition 20 (5) DML 3: Condition 19 (5) ‘The undertaker must ensure that only inert material of natural origin, produced during the drilling</p>	<p>The DMLs provide for disposal within the Order limits. Please see Schedule 8, Part 1, Paragraph 2; Schedule 9, Part 1, Paragraph 2; and Schedule 10, Part 1, Paragraph 2.</p>	<p>The MMO is currently designating disposal sites and these will be allocated a reference number which should be included within the DML.</p>

	<p>installation of or seabed preparation for foundations, vessels or cables and drilling mud is disposed of within the Order limits seaward of MHWS.'</p> <p>The Applicant should state the name of the disposal site that the material will be deposited in. The MMO is working to designate the disposal sites and will provide an update in due course. In the event that no activity has taken place during the reporting period the undertaker must provide a null (0) return to the MMO.</p>		
MMO-82	<p>Pre-construction plans and documentation</p> <p>DML 1: Condition 22 (3) DML 2: Condition 23 (3) DML 3: Condition 22 (3)</p> <p>The MMO must determine an application for approval made under condition 21 within a period of six months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker such agreement not to be unreasonably withheld or delayed.</p> <p>The MMO requests this condition is removed from all the DMLs. This is not appropriate for the determination times to be conditioned. The MMO sets its own timescales, and this is dependent on the quality of the submission and the availability of primary advisors, please see comments under 3.2.1-3.2.5 Determination dates.</p>	<p>Please see response to MMO-66, which provides for an extension by consent which could apply in the circumstances raised in the MMO's representation. It is entirely appropriate to include timescales to provide for a degree of regulatory certainty and ensure the carrying out of the Project is not unnecessarily or unreasonably delayed given its nationally significant status, and the critical national priority need. The Applicant notes that the wording proposed is well-precedented and indeed is longer than provided in some DCOs. It is noted that the Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024 provides for four months and the Hornsea Four Offshore Wind Farm Order 2023 provides for six months, which is the longer time period provided for in this draft DCO.</p>	<p>The MMO acknowledges the Applicant's response and welcomes the longer timescale. The MMO still believes that a determination date is not required and believes this will remain an agree to disagree position at the end of the Examination.</p>
MMO-83	<p>Pre-construction plans and documentation</p> <p>DML 1: Condition 21 (7)</p>	<p>The Applicant disagrees with this request. The condition as drafted ensures that the undertaker</p>	<p>The MMO maintains its position that any</p>

	<p>DML 2: Condition 22 (7) DML 3: Condition 21 (7)</p> <p>The undertaker must, before submitting any pre-construction plans and documentation required under this condition, provide a copy of the plans and documentation to any person to whom part of the benefit of the Order applying seaward of MHWS has been transferred or leased pursuant to article 5 (benefit of the order) of the Order.</p> <p>The MMO requests that the reference to benefit of the order should be removed.</p>	<p>provides copies of relevant documentation to those with benefit of the Order. This is in keeping with Article 5 of the dDCO, in relation to which the Applicant has responded to above.</p>	<p>reference to Benefit of the Order should be removed from this condition. The MMO has provided further detailed comments on Benefit of the Order in it's Deadline 2 response (REP2-043).</p>
MMO-85	<p>Pre-construction monitoring and surveys</p> <p>DML 1: Condition 25 DML 2: Condition 26 DML 3: Condition 25</p> <p>This condition must be updated to state when the results of the pre-construction monitoring survey will be submitted and also state that the works will not commence until the MMO has approved the survey report.</p>	<p>The Applicant considers that the specification of timing is unnecessary as the monitoring plan to be approved under sub-paragraph (1) of these conditions will specify the timescales for provision of survey data (which may vary depending on the nature of the survey data and processing timescales).</p> <p>In respect of the activities not commencing before approval of the survey report, this is provided for in that compliance with Condition 25/26 is part of the discharge of condition 21(1)(f)/22(1)(f), before discharge of which "the licensed activities for each stage of construction of the authorised development must not commence". The Applicant refers the MMO to Condition 21/22 generally.</p>	<p>The MMO notes the Applicant's response and is content with this condition, the MMO would highlight that the MMO does not agree with Condition 22 (3) as set out above in response to MMO-82.</p>
MMO-90	<p>Post Construction Monitoring</p> <p>DML 1: Condition 27 (2)(a) DML 2: Condition 28 (2)(a)</p>	<p>The Applicant notes that no construction benthic survey report is provided for. There is a pre-construction survey report, and a post-construction survey report, with the design of the latter being informed by the results of the former.</p>	<p>The MMO acknowledges the Applicant comments. The MMO believes there is still ongoing discussions on the</p>

	<p>DML 3: Condition 27 (2)(a)</p> <p>The MMO recommends the post construction survey design is also informed by the construction benthic survey report. This is to account for any mobile benthic habitats which may shift in extent. Suggested wording: ‘undertake a survey to determine any change in the location, extent and composition of any habitats of principal importance or habitat with suitability for biogenic or geogenic reef feature identified in the pre-construction survey in the parts of the Order limits in which construction works were carried out. The survey design must be informed by the results of the pre-construction benthic survey and construction benthic surveys’.</p>	<p>This is provided for in Condition 27(2)/Condition 28(2), as follows:</p> <p><i>If the plan or plans submitted to the MMO under this condition contain survey proposals, the post-construction survey plan or plans must include, in outline—</i></p> <p><i>(a) details of a survey to determine any change in the location, extent and composition of any biogenic or geogenic reef feature identified in the pre-construction survey in the parts of the offshore Order limits in which construction works were carried out. The survey design must be informed by the results of the pre-construction benthic survey;</i></p> <p>The Applicant notes that the Order limits do not overlap with any designated site for benthic ecology and therefore considers any further provision to be unnecessary.</p>	<p>monitoring requirements, and this will remain open until these are agreed.</p>
MMO-98	<p>4.5 Outline Offshore Operations and Maintenance Plan (Document 7.20 – APP-255)</p> <p>4.5.4 New cable or scour protection placed in an area where there was no protection during construction is not classed as ‘maintenance’. New cable or scour protection is not maintaining the existing cable or scour protection. Although the ES assesses a maximum parameter, the MMO views cable protection as a high-risk activity and therefore placing cable protection throughout the lifetime of the licence that was not placed during the construction</p>	<p>Scour protection would be deployed in proximity to WTG and OSP/OCP foundations and therefore, provided the areas and volumes are within the parameters assessed in the ES and secured in the DCO, no further licences should be required.</p> <p>Any cable protection must be deployed within 10 years of the date of the Order. Unless otherwise agreed by the MMO, cable protection required after 10 years would be subject to an additional marine licence.</p>	<p>Noted. The MMO is largely content with the updates within the updated submission of the Outline Offshore Operations and Maintenance Plan (REP3-025/6) and may provide further comments at Deadline 4.</p>

	phase should not be included within the OMP. A separate licence should be applied for.	The Outline Offshore Operations and Maintenance Plan [APP-255] will be updated and submitted at Deadline 3.	
MMO-100	<p>4.6 Outline Fisheries Liaison and Co-existence Plan (Document 7.9 – APP-244)</p> <p>4.6.2 The MMO requests that the below text in Section 1.2 paragraph 10 is updated to remove the word ‘material’. All changes to the Fisheries Liaison and Co-existence Plan must be submitted to the MMO for approval.</p>	Noted - the text will be updated post-consent in the final FLCP [APP-244] before submission to the MMO for approval.	<p>The MMO requests this is be updated prior to the end of examination; it should be clear now that the MMO will have to have the most up to date plan being used to ensure compliance. This would even be for minor updates.</p> <p>It should also be clear within this document that the MMO will not be an arbitrator or part of any discussions on compensation matters and this should be updated during examination.</p>
MMO-105	<p>4.9 Marine Conservation Zone MCZ Appendix 1 Screening (Document 7.3.1 – APP-238)</p> <p>4.9.1 The MMO defers to Natural England as the SNCB.</p>	Noted. Responses to Natural England’s relevant representation on Benthic and Intertidal Ecology are provided in Section 2.24 of the Applicant’s Responses to the Relevant Representations Received from Natural England [Document Reference:9.1].	Noted. The MMO has no further comments.
MMO-106	4.10 Offshore In-Principal Monitoring Plan (IPMP) – APP-245	The build out sequence of North Falls will need to ensure safety of mariners. For the first four piles to be the worst case for underwater noise, this	The MMO notes the Applicant’s comments and welcomes the update

	<p>4.10.1 The In-Principle Monitoring Plan (IPMP) has been produced to provide the basis for delivering the monitoring measures as required by the conditions contained within the DMLs for North Falls Offshore Wind Farm. The report confirms that if piled foundations are used in the final project design, underwater noise monitoring of the first four piles of each piled foundation type would be undertaken with the methods agreed with the MMO and relevant SNCB in the pre-construction period (point 53). This is in keeping with the standard requirements for OWF developments. The MMO would like the report updated to ensure a commitment that the first four piles monitored would be the worst-case scenario piles. Monitoring of less impactful piles would not validate the predictions of the worst-case scenario within the ES.</p>	<p>could lead to piles being scattered around the array area which could have safety implications for shipping traffic. The requirements would be that the build out sequence starts adjacent to the existing windfarm such that there are no isolated structures for a period of time. Therefore it is the Applicant's position that this is not appropriate.</p> <p>The Applicant has updated the DMLs within the draft DCO at Deadline 1 to include this provision: [...]</p> <p>(2) If the plan or plans submitted to the MMO under this condition contain survey proposals, the construction monitoring plan must include, in outline—</p> <p>(a) vessel traffic monitoring by automatic identification system for the duration of the construction period, with provision for a report to be submitted to the MMO, Trinity House, and the MCA annually during the construction period for the authorised development; and</p> <p>(b) where piled foundations are to be employed, unless otherwise agreed by the MMO in writing, details of proposed monitoring of the noise generated by the installation of the first four piled foundations of each piled foundation type to be constructed collectively under this licence and the deemed marine licences granted under Schedules 9 and 10 of the Order.</p> <p>(3) If, in the reasonable opinion of the MMO in consultation with the SNCB the monitoring carried</p>	<p>to the condition. However, the MMO still requires some commitment (two piles) to providing validation to the ES assessment and the worst case scenario.</p> <p>The MMO is currently reviewing this condition with the SNCB after feedback that the monitoring requested and timing of information provided is not fit for purpose. The MMO will provide an update as soon as possible and continue discussions with the Applicant.</p>
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		out pursuant to condition 26(2)(b) above shows impacts significantly in excess to those assessed in the environmental statement and there has been a failure of the mitigations set out in the marine mammal mitigation protocol, all piling activity must cease until either contingency measures approved within the marine management mitigation protocol have been implemented or an update to the marine mammal mitigation protocol and further monitoring requirements have been agreed.	
MMO-111	<p>4.12 Outline Marine Mammal Mitigation Protocol – Document 7.7 – APP-242</p> <p>4.12.1 The MMO welcomes that the Applicant will be considering all suitable mitigation options including the use of Noise Abatement when developing the final MMMP (as stated in Table 1-2). However, the MMO requests that a specific section regarding noise abatement is added to the MMMP. At this stage the MMO considers there is clear justification and evidence that noise abatement measures will be required for the project, to reduce the risk of potential impact on marine receptors.</p>	The Applicant acknowledges this comment and will amend the Draft MMMP [APP-242] to add a section to detail how NAS will be considered as a mitigation measure for piling at North Falls.	The MMO is reviewing the updates in REP3-014/5 and will provide comments at Deadline 4..
Environmental Statement (ES)			
MMO-132	<p>5.3 Dredge and Disposal (Chapter 8 – Marine Geology Oceanography and Physical Processes – APP-022)</p> <p>5.3.4 The MMO further notes that the Applicant states, “PCB data indicated that the sample were at</p>	The PCB results are being provided to the MMO in the requested template.	The MMO notes this and will review and provide any further comments in due course once in receipt of the PCB results. The MMO would

	or below the detection limits, and therefore are not presented in the table” and would request the Applicant provides the Polychlorinated Biphenyl (PCB) data from the 2021 survey to support this statement.		like to understand when the Applicant will be providing this information?
MMO-133	<p>5.3 Dredge and Disposal (Chapter 8 – Marine Geology Oceanography and Physical Processes – APP-022)</p> <p>5.3.5 The MMO notes that the Applicant has referred to a variety of Sediment Quality Guidelines (SQGs) in the assessment of their results (Appendix 10.1 Benthic and Intertidal Ecology Survey Report, Section 4) including UK Action Levels, Canadian SQGs and Coordinate Environmental Monitoring Programme (CEMP) OSPAR and National Oceanic and Atmospheric Administration (NOAA) levels. However depending on the extraction method used, the resultant concentration level in the sample will vary. Therefore, the contaminant level produced using the specific extraction method for each respective contaminant cannot be used for direct comparison with all SQGs.</p>	Given the cross over with the requirement for any sediment disturbed or dredged to be included in the disposal to sea application, sediment contaminant analysis has been undertaken by an MMO accredited lab that meets the analysis requirements for disposal to sea sampling. The ES Chapter 9 Marine Water and Sediment Quality [APP-023] then uses Cefas Action Levels to assess the potential risk to the marine environment alongside providing information regarding the suitability for disposal to sea assessment. For additional context and in line with comments on other offshore windfarm ES’ from other consultees, sediment contaminant concentrations have also been compared to sediment guidelines used by the OSPAR Commission – Background Assessment Concentrations (BAC) and the United States (US) Environmental Protection Agency’s Effects Range-Low (ERL). A full explanation regarding the use of sediment guidelines within the ES is provided in section 9.4.1.4 of Chapter 9 [APP-023].	The MMO notes the Applicant’s response. The MMO awaits the Applicant to send the sediment results in the MMO format.
MMO-145	5.3 Dredge and Disposal (Chapter 8 – Marine Geology Oceanography and Physical Processes – APP-022)	The survey results are being provided to the MMO in the standard MMO excel template, as requested.	The MMO notes this and will review and provide any further comments

	<p>5.3.17 The MMO requests that the Applicant provides the sample results in the standard MMO excel template, and the PCB data from the 2021 Benthic survey to support their assessment. The disposal site characterisation report and Horizontal Directional Drilling (HDD) Method Statement and Contingency Plan are also inaccessible currently and the MMO requests that these are provided.</p>	<p>The Site Characterisation Report [APP-261] and Outline Horizontal Directional Drill Method Statement and Contingency Plan [APP-250] have been submitted with the DCO application and are available through the examination library.</p>	<p>once in receipt of the survey results.</p>
MMO-146	<p>5.3 Dredge and Disposal (Chapter 8 – Marine Geology Oceanography and Physical Processes – APP-022)</p> <p>5.3.18 The MMO notes that the HDD exit location would be up to 1.5km from shore, with the potential to disturb the shallow subseabed (to an average depth of 1.2m) and width of up to 24m. The trench will extend from the HDD exit location to the Offshore Substation Platform (OSP), which will be located on the seabed approximately 1m-8m depth. At the entrance and exit of the HDD, more intense but localised sediment disturbance at the exit pit, however, the potential effects on marine water quality have already been assessed as either ‘minor adverse’ or ‘negligible’. On this basis, the Applicant states that “no additional mitigation measures are proposed beyond the embedded” mitigations presented for accidental pollution and sediment release. The MMO does not consider the implementation of embedded mitigations to be robust and would expect to see further consideration of mitigations. Moreover, until the sample results have</p>	<p>The increases in suspended sediment associated with installation of the offshore export cables are assessed in ES Chapter 9 [APP-023] in Section 9.6.1.3. During the excavation process the SSCs will be elevated above prevailing conditions but are likely to remain within the range of background nearshore levels (which will be high close to the coast because of increased wave activity) and lower than those concentrations that would develop during storm conditions. Also, once installation is completed, the high energy nearshore zone is likely to rapidly disperse the suspended sediment (i.e., over a period of a few hours) in the absence of any further sediment input.</p> <p>The significance of effect of this impact is assessed as minor adverse which is not significant. Therefore, the Applicant considers the embedded mitigation presented in Section 9.3.3 of the ES Chapter 9 [APP-023] and secured via the outline PEMP [APP-241] to be appropriate and proportionate to the level of impact.</p>	<p>The MMO notes the Applicant’s response and will provide any further comments once in receipt of the survey results.</p>

	been provided in the correct format, the MMO is unable to determine the suitability of the mitigations.	The survey results are being provided in the standard MMO excel template to the MMO.	
MMO-148	<p>5.3 Dredge and Disposal (Chapter 8 – Marine Geology Oceanography and Physical Processes – APP-022)</p> <p>5.3.20 The description of the project is clear, and the MMO considers the receptors scoped into the ES to be appropriate. However, further information is required from the Applicant as outlined above. In particular, the Applicant has provided the 2021 sediment survey results in PDF format and not in the standard MMO excel template. In the current format the MMO is unable to fully interrogate the data without manually transcribing the data into the template – which carries a high risk of human error. This is necessary to fully understand the levels of contamination present within the surface sediments of the proposed dredge area. As such, the MMO is unable to agree with the conclusions reached with regard to contaminants. Please can the Applicant provide a copy of these results in the standard MMO template.</p>	The survey results are being provided in the standard MMO excel template to the MMO.	The MMO notes this and will review and provide any further comments in due course once in receipt of the survey results.
MMO-159	<p>5.4 Benthic Ecology (Chapter 10 – Benthic and Intertidal Ecology – APP-024)</p> <p>5.4.11 The MMO recommends that the Applicant considers collecting scrape samples and assesses imagery from infrastructure monitoring alongside grab sampling to determine the presence and</p>	The Applicant considers the proposed grab sampling approach to monitoring Invasive Non-Native Species, outlined in the In Principle Monitoring Plan [APP-245] to be appropriate and this is consistent with other consented projects, such as Dudgeon and Sheringham Shoal Extension Projects.	The MMO notes that the Applicant has responded stating that there is no formal requirement to do this, and this has not been undertaken for other projects. While this might be the case, the MMO believes that the

	composition of the Invasive Non-Native Species assemblage that may colonise WTG infrastructure.		inclusion of this sampling would show a positive gesture to demonstrate that the industry is taking steps to identify, understand and, potentially, reduce the impact should it materialise to be associated with the offshore renewables development.
MMO-163	<p>5.5 Fish Ecology (Chapter 11 – Fish and Shellfish Ecology – APP-025)</p> <p>5.5.3 The MMO notes that the North Sea Sandeel Survey (NSSS) data could have also been used to supplement the characterisation of sandeel habitat for the ES. The NSSS is a targeted sandeel dredge survey that has been carried out annually in December since 2004. The NSSS data can be downloaded from the International Council for the Exploration of the Sea (ICES) at Datras: https://datras.ices.dk/Data_products/Download/Download_Data_public.aspx. The MMO would typically recommend that a minimum of 10 years of the most recently available data is used to inform the assessment.</p>	The suitability of the NSSS to inform the PEIR was discussed during the Expert Topic Group meeting (November 2023). The data had been reviewed and was not considered representative as the spatial coverage of the NSSS does not extend as far south as the fish and shellfish ecology study area identified for ES Chapter 11 Fish and Shellfish Ecology [APP-025]. The NSSS area is focussed on the key sandeel grounds in the North Sea between Dogger Bank and Scotland, which is outside of the North Falls Array Area by approximately 118km.	Noted. The MMO has no further comments at this time.
MMO-164	5.5 Fish Ecology (Chapter 11 – Fish and Shellfish Ecology – APP-025)	The Applicant notes that in the MMO's consultation response to the PEIR dated 14th July 2023, it was recommended that a heat map approach be undertaken and referenced	Should the Applicant seek to refine the recommended temporal piling restriction during

	<p>5.5.4 The MMO notes that some clarifications and corrections are also needed regarding the Applicant's potential herring spawning habitat and potential sandeel habitats 'heat' maps which have been presented to support the habitat suitability assessments. Several data layers appear to have been omitted or misrepresented which represents a departure from the recommended 'heat' mapping approaches of MarineSpace (2013a and b) and means the Applicant's 'heat' map may be underrepresenting the true extent and importance of potential herring spawning habitat and potential sandeel habitats.</p>	<p>MarineSpace (2013) as an example of a heat map approach. The approach was therefore tailored to fit using available data sources appropriate to sandeel and herring in areas relevant to the Project and is considered to be representative of potential herring spawning and suitable sandeel habitats.</p>	<p>the Downs herring spawning season, it should be noted that the MMO would expect the Applicant to provide an accurate and updated herring potential spawning habitat 'heat' map using the updated mapping methodology for herring as detailed in Kyle-Henney et al., (2023) which draws on all appropriate layers as part of this process.</p> <p>The MMO supports the Applicant's acceptance of a temporal piling restriction during the Downs herring spawning season, however the Applicant's commitment to the piling restriction is framed as "restricting piling activities during a suitable period of time between the 1 November and 31 January" which the MMO maintains is unacceptable. The phrasing that piling will only be restricted for a 'suitable period of time'</p>
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			<p>between the 1 of November and 31 January, does not define when, or for how long, the restriction will be implemented. This leaves the commitment open to exploitation in that it could be fulfilled by restricting piling for only a few weeks during the three-month spawning season, when a restriction covering the full spawning season is the only appropriate implementation until further evidence is provided to the MMO.</p> <p>The MMO therefore maintains the request that this restriction is embedded in the marine licence and the DCO as the period of the recommended piling restriction should be from the 1 November to 31 January, inclusive. In order to temporally refine this period of restriction, the Applicant should provide a suitable 'heat'</p>
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			map of potential herring spawning habitat alongside or overlaid with the UWN contours for the range of behavioural impact from piling based on the 135dB single strike sound exposure level (SELss) behavioural response threshold as per Hawkins et al., (2014). Until such evidence is presented, a commitment to a piling restriction which covers “a suitable period of time” between the 1 November and 31 January is not acceptable by the MMO.
MMO-165	<p>5.5 Fish Ecology (Chapter 11 – Fish and Shellfish Ecology – APP-025)</p> <p>5.5.5 The MMO also notes from Table 6.14 of the ES Appendix 11.1 Fish and Shellfish Ecology Technical Report, that the Applicant appears to have omitted the Eastern Sea Fisheries Joint Committee (ESFJC) Fishing Grounds layer from their ‘heat’ map as well as unnecessarily refining vessel monitoring system (VMS) data to Danish demersal fishing vessels. This is inconsistent with the ‘heat’ mapping methodology defined by the MarineSpace (2013a) as the VMS data layer should be formed from 10 years of VMS data for vessels using demersal fishing gears in the</p>	<p>The Applicant notes that in the MMO’s consultation response to the PEIR dated 14th July 2023, it was recommended that a heat map approach be undertaken and referenced MarineSpace (2013) as an example of a heat map approach. The approach was therefore tailored to fit using available data sources appropriate to sandeel. The Applicant considers that the VMS data layers included in the Marine Space (2013) methodology (UK vessels using demersal fishing gears) is not representative of sandeel presence, particularly given the lack of a UK targeted sandeel fisheries in that area. UK vessels using demersal fishing gears would be</p>	<p>Please see MMO comments on MMO-164.</p>

	<p>area of interest, and not be filtered to present the activity of one particular nation as this will underrepresent the true extent and importance of potential sandeel habitat in the area. Omission of the ESFJC layer is also not acceptable as, although some layers may not occur in all regions, they must not be omitted as the inclusion of all the layers described in the methodology directly affect the categorisation of 'heat' associated with the mapping approach. With this in mind, the MMO requests that the Applicant redoes their herring spawning habitat 'heat' map following the updated version of the MarineSpace methodology (Reach et al., 2023).</p>	<p>targeting demersal species. For example, sole and thornback ray are the highest value species in UK demersal trawls landings. Furthermore, consultation undertaken with local fisheries stakeholders to inform the commercial fisheries chapter did not identify any local commercial sandeel fishery in the study area.</p> <p>The Applicant notes that the ESFJC data was not included given the caveats in the dataset, where they identified significant limitations in regards to the accuracy of the data shown. It should also be noted that these data layers have not been available from the IFCA website for the last five years.</p> <p>The heat map approach adopted for North Falls, follows MMO's consultation response to the PEIR (dated 14/07/2023) and agreed through technical discussions undertaken during expert topic group (ETG) meetings.</p> <p>The heat maps were produced using the Marine Space (2013) methodology as a guidance and are considered to be representative of potential herring spawning and suitable sandeel habitat.</p>	
MMO-166	<p>5.5 Fish Ecology (Chapter 11 – Fish and Shellfish Ecology – APP-025)</p> <p>5.5.6 The Applicant has assessed the magnitude of impact associated with the project works for sandeel to be negligible and concluded that effects to sandeel are of minor significance, which is not</p>	<p>The suitability of the NSSS to inform the PEIR was discussed during the Expert Topic Group meeting (November 2023). The data had been reviewed and was not considered representative as the spatial coverage of the NSSS does not extend as far south as the fish and shellfish ecology study area identified for ES Chapter 11</p>	<p>Please see MMO comments on MMO-164.</p>

	<p>significant in EIA terms. The current potential sandeel habitat 'heat' map provided by the Applicant (documents reviewed; Appendix 11.1 Fish and Shellfish Ecology Technical Report, Figure 6.23) shows the OWF array site to be situated entirely within seabed habitat with 'medium' confidence score. Therefore, for these impacts in question, the MMO would typically expect the magnitude of impact to be classified as 'low' at the very minimum. Considering the broader potential sandeel spawning habitat that is available in the wider region, and the localised and temporary nature of these impacts that are largely restricted to the boundary of the OWF array site, the MMO would not anticipate significant impacts on sandeel at the population level however the clarifications requested of the Applicant's 'heat' map for sandeel, and consideration of the NSSS data in the Applicant's assessment for sandeel should be presented before the MMO can accept the Applicant's conclusions.</p>	<p>Fish and Shellfish Ecology [APP-025]. The NSSS area is focussed on the key sandeel grounds in the North Sea between Dogger Bank and Scotland, which is outside of the North Falls Array Area by approximately 118km.</p>	
MMO-168	<p>5.5 Fish Ecology (Chapter 11 – Fish and Shellfish Ecology – APP-025)</p> <p>5.5.8 The MMO also notes that Figure 6.33 provided in Appendix 11.1 Fish and Shellfish Ecology Technical Report, the Applicant's 'heat' scale ranges from 0 – 13 which is inconsistent with the 'heat' scale defined by the MarineSpace (2013) methodology, which ranges from 0 – 16. In the MarineSpace methodology, each data layer is assigned a score and if all layers were to coexist at one location, the maximum possible score would be 16 (as defined in sections 2.5.7 – 2.5.10 of the MarineSpace method</p>	<p>The heat map approach adopted for North Falls, follows MMO's consultation response to the PEIR (dated 14/07/2023) and agreed through technical discussions undertaken during expert topic group (ETG) meetings.</p> <p>The Applicant notes the heat map produced using the Marine Space (2013) methodology as a guidance is therefore considered to be representative of potential herring spawning.</p> <p>The ESFJC data was not used given the caveats in the dataset. The Applicant notes that these</p>	<p>Please see MMO comments on MMO-164.</p>

	<p>statement). Although 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 (section 2.5.10 of MarineSpace (2013)) explicitly categorises 'heat' scores into four discrete intervals: 1-4 (low), 5-8 (medium), 9-12 (high), 13-16 (very high). MarineSpace have completed regional 'heat' mapping assessments for herring spawning potential habitat and the scale has remained consistent across regions, even where certain layers (such as the ESFJC Fishing Grounds) do not occur. It appears from Table 6.16 of the fish ecology technical appendix, and Figure 6.33, that the Applicant has not only omitted the ESFJC layer from their 'heat' map but has also presented inaccurate vessel monitoring system (VMS) data as well. Table 6.16 outlined that Danish VMS data for the years 2014-2018 has been used to form the 'heat' map. 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.</p>	<p>data layers have significant limitations in regard to the accuracy of the data shown and that this data has not been available from the IFCA website for the last five years.</p> <p>The data presented in Table 6.16 had been incorrectly referenced, the Applicant can confirm that the VMS incorporated into the heat map was for UK Pelagic Trawl/Seines.</p>	
MMO-169	<p>5.5 Fish Ecology (Chapter 11 – Fish and Shellfish Ecology – APP-025)</p> <p>5.5.9 For many years, MarineSpace (2013) represented the only available 'heat' mapping methodology, however, MarineSpace Ltd, in consultation with the MMO and Cefas Fisheries Advisors, have published an updated version of the methodology (Kyle-Henney et al., 2023) which takes</p>	<p>The heat map approach adopted for North Falls, follows MMO's consultation response to the PEIR (dated 14/07/2023) and agreed through technical discussions undertaken during expert topic group (ETG) meetings.</p> <p>The Applicant notes that the assessment presented is appropriate to the available herring data sources and highlights that the updated</p>	Please see MMO comments on MMO-164.

	<p>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. As outlined in point 3.5.7 above, there are several elements of the Applicant's herring spawning habitat 'heat' map which require clarification and correction. With this in mind, the MMO requests that the Applicant redoes their herring spawning habitat 'heat' map following the updated version of the MarineSpace methodology (Kyle-Henney et al., 2023).</p>	<p>herring methodology (Kyle-Henney et al., 2024), is based on the original methodology from MarineSpace (2013)</p> <p>The ESFJC data was not used given the caveats in the dataset. The Applicant notes that these data layers have significant limitations in regard to the accuracy of the data shown and that this data has not been available from the IFCA website for the last five years.</p> <p>The data presented in Table 6.16 had been incorrectly referenced, the Applicant can confirm that the VMS incorporated into the heat map was for UK Pelagic Trawl/Seines.</p>	
MMO-193	<p>5.7 Underwater Noise (Chapter 12 Marine Mammals – APP-026 and Chapter 26 – Noise and Vibration – APP-040)</p> <p>5.7.18 Section 4.1, and Table 4-2, presents the maximum predicted unweighted peak sound pressure level (SPL_{peak}) and the single strike sound exposure level (SEL_{ss}) noise levels at a range of 750m from the source. For the SEL_{ss} metric, the MMO observes that the monopile values (for a 17m diameter pile and 6,000kJ hammer energy) are only 0.5–1dB above the corresponding pin-pile values (for 6m diameter piles and 4,400kJ hammer energy). This is somewhat at odds with the emerging evidence from literature, which suggests that the pile diameter is a very important factor in the scaling of piling noise (von Pein et al., 2020). At the same time, the MMO is aware that the INSPIRE model is based</p>	<p>The Applicant is aware of the von Pein et al (2020 and more recent 2022) reports and disagrees with some of its conclusions. The pile diameter term of the scaling equations the authors propose may 'fit' the extremes of the data, but a visual interrogation of the plots in the paper shows that the increases at larger diameters do not in fact lead to significant increases. The indicated trend for noise vs pile diameter in von Pein et al (2022) does not fit with the empirical data used for the assessment, which, although not extending to 17m piles, does show a good fit and trend from less than 1m up to approximately 10m. The blow energy has a much greater influence than pile diameter and also tends to increase with pile diameter. The Applicant stands by the predictions of the assessment.</p>	<p>The MMO notes the Applicant's response and will provide an update at Deadline 5.</p>

	on existing empirical data, which presumably does not yet exist for the parameters relevant to the monopile foundation at this windfarm, and thus needs to be extrapolated up to the scale anticipated for the current application.		
MMO-194	<p>5.7 Underwater Noise (Chapter 12 Marine Mammals – APP-026 and Chapter 26 – Noise and Vibration – APP-040)</p> <p>5.7.19 The MMO notes that when considering the maximum hammer energy of 6,000kJ for monopiles, the unweighted SPLpeak predictions at 750m range from 202.0 to 202.4dB depending on the modelling location (Table 4-2). These values slightly exceed the PTS threshold value of 202dB SPLpeak for VHF cetaceans under the Southall et al. (2019) impulsive criteria. This indicates that the maximum PTS ranges for VHF cetaceans would be slightly larger than 750m. However, the summary results in Tables 4-3 (East location), 4-7 (South location) 4-11 (West location), predict maximum ranges of only 680m, 660m, and 610m respectively for VHF cetaceans.</p>	The Applicant acknowledges the apparent inconsistency, and this is related to model resolution for each of these runs. The VHF PTS modelling was undertaken at a higher resolution to determine the impact ranges; a lower resolution was used for the predictions at specific distances, which leads to these small discrepancies. The results from the modelling undertaken at a higher resolution specifically for the VHF PTS impact ranges has been used to provide a robust assessment of PTS on VHF cetaceans.	The MMO notes this response and requests that this is made clear within the documents.
MMO-198	<p>5.7 Underwater Noise (Chapter 12 Marine Mammals – APP-026 and Chapter 26 – Noise and Vibration – APP-040)</p> <p>5.7.23 Section 1.4.3.3 states the following:</p> <p>“The number of harbour porpoise, minke whale, grey seal and harbour seal that could potentially be impacted by a high-order UXO detonation (up to 750kg NEQ), and low-order clearance (0.5kg) has</p>	Comment linked to MMO-199 below.	See response to MMO-199.

	<p>been estimated based on the maximum potential PTS impact ranges (Table 1.7). For high-order detonation of the maximum potential UXO with an NEQ of 750kg plus donor charge, the magnitude for PTS is assessed as a worst-case (Table 1.7) to be:</p> <ul style="list-style-type: none"> • Medium for harbour porpoise and minke whale • Low to medium for grey seal • Negligible to medium for harbour seal”. 		
MMO-199	<p>5.7 Underwater Noise (Chapter 12 Marine Mammals – APP-026 and Chapter 26 – Noise and Vibration – APP-040)</p> <p>5.7.24 The MMO would question the ‘Medium’ rating for harbour porpoises, especially when 1,981 individuals are predicted to be at risk of PTS (refer to Table 1.7). Similarly, for TTS, the assessment concludes that for the high-order detonation of the maximum potential UXO with an NEQ of 750kg plus donor charge, the magnitude for TTS is assessed as a worst-case scenario (Table 1.8) to be ‘Low’ for harbour porpoises and minke whales, ‘Negligible’ for grey seals, and ‘Negligible to low’ for harbour seals. For harbour porpoises, a total of 6,832 individuals are at risk of TTS, which casts doubt on the ‘Low’ magnitude rating.</p>	The Applicant notes this comment and maintains its position regarding the magnitude levels used in the assessments, justification on the magnitudes are provided in the document Further Information Regarding Marine Mammals (Document Reference 9.14) submitted at Deadline 1.	The MMO notes the Applicant’s response and has no further comment.
MMO-200	5.7 Underwater Noise (Chapter 12 Marine Mammals – APP-026 and Chapter 26 – Noise and Vibration – APP-040)	See response above for MMO-199.	See response above for MMO-199.

	<p>5.7.25 The above comment also pertains to section 1.4.4.3 of the report and the extent of impact from disturbance caused by UXO. Based on a 26km Effective Deterrence Range (EDR) for high-order detonation with no mitigation, a total of 6,832 harbour porpoise are at risk, but this has been assessed as 'Low' magnitude (see Table 1.10).</p>		
MMO-203	<p>5.7 Underwater Noise (Chapter 12 Marine Mammals – APP-026 and Chapter 26 – Noise and Vibration – APP-040)</p> <p>5.7.28 The MMO notes that the Applicant has agreed for one of the first four piles to be within an area anticipated to generate the greatest underwater noise emissions. This is likely to be determined through detailed ground investigations, with areas of hard substrate and / or depth being correlated with higher anticipated noise emissions. The MMO recommends that where possible, the 'worst case' piles should be the first four to be installed.</p>	See response to MMO -106.	See response to MMO-106.

Yours Sincerely,



Marine Licensing Case Officer

[Redacted]

[Redacted] [@marinemanagement.org.uk](mailto:[Redacted]@marinemanagement.org.uk)

Copies provided to:

Marine Licensing Senior Case Manager – [Redacted] [@marinemanagement.org.uk](mailto:[Redacted]@marinemanagement.org.uk)

Marine Licensing Case Manager – [Redacted] [@marinemanagement.org.uk](mailto:[Redacted]@marinemanagement.org.uk)

2. References

Hawkins, A., Roberts, L., & Cheesman, S. (2014). Responses of free-living coastal pelagic fish to impulsive sounds. *The Journal of the Acoustical Society of America*, 135, 3101–3116.

Kyle-Henney M., Reach I., Barr N., Warner I., Lowe S., and Lloyd Jones D., 2023. Identifying and Mapping Atlantic Herring Potential Spawning Habitat: An Updated Method Statement.