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Agency

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28 March 2022

Dear Sir/Madam

Hornsea Project Four Offshore Wind Farm – EN010098

Planning Act 2008 – Section 89 and The Infrastructure Planning (Examination Procedure) Rules 2010

Examination Timetable – Deadline 2 – Written Representation

Thank you for the opportunity to respond to your Rule 8 letter giving notice of the procedural decisions made following the Preliminary Meeting, and to provide a written representation at Deadline 2.

The MCA's remit for Offshore Renewable Energy Installations (OREIs) is to ensure that the safety of navigation is preserved, and our Search and Rescue capability is maintained, whilst progress is made towards government targets for renewable energy. The Navigation Risk Assessment (NRA), the shipping and navigation chapter of the Environmental Impact Report and draft DCO have been reviewed and we would like to comment as follows:

A5.7.1 Environmental Statement Volume A5 Annex 7.1 Navigational Risk Assessment (APP-081, APP-082 & APP-083) and A2.7 Environmental Statement Volume A2 Chapter 7 Shipping and Navigation (APP-019)

Ørsted has undertaken a detailed Navigation Risk Assessment (NRA) in accordance with MCA guidance (MGN 654) and NRA risk assessment methodology. We are satisfied that appropriate traffic data has been collected in accordance with MGN654, which includes two 14-day marine vessel traffic survey in the summer of 2020 and winter of 2021, supplemented by AIS data from the winter and summer of 2019, summer of 2021 and commercial vessel traffic route data between 2018 and 2020. Key and appropriate stakeholders were identified, and MCA is content that suitable consultation took place via a hazard identification workshop and dedicated meetings. A completed MGN 654 Checklist has been provided as part of the NRA, and we are content the recommended NRA process has been followed.

We would like to comment as follows on several key issues identified in the NRA and Shipping & Navigation Chapter of the EIA Report:

1. **Gap between Hornsea 4 and Hornsea 2.**

The decision to reduce the Red Line Boundary of the project and create a gap or 'corridor' between the site and Hornsea Project Two provides a more direct route for merchant vessels transiting to and from the west coast of UK to European ports. This gap is a 'bow-tie' shape with the narrowest point between the north-west turbine of Hornsea 2 and the likely closest turbine of Hornsea 4 assessed as 2.2nm. When measured from blade tip to blade tip this distance reduces to 1.9nm. The gap widens at both sides after the narrowest point and with the predicted low probability of vessel encounter, MCA is content with the assessment and conclusions that it will not pose an unacceptable navigational risk.

The recommended risk controls are accepted for ensuring the risks are As Low As Reasonably Practicable (ALARP). In addition, MCA requests that a hydrographic survey of the gap is carried out by Ørsted to update hydrographic data and navigational charting information. This is recommended due to the expected changes in traffic patterns where traffic is diverted through the gap and where vessels will transit over the Viking Link cable route. It is requested this is a condition in the DCO/DML.

If the project receives Ministerial development consent, MCA will give consideration for proposing an IMO Recommended Route between Hornsea 4 and Hornsea 2 to show the expectations for complying with the International Regulations for Preventing Collisions at Sea (COLREG) when vessels transit through the gap. This would be marked on navigation charts to show it is a narrow channel. The process for introducing a Recommended Route in UK waters is led by the MCA who will make the appropriate consultations and proposals to the UK Safety of Navigation Committee.

2. **Layout Design.**

The turbine layout design will require MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and search and rescue aircraft operating within the site. MCA will seek to ensure all structures are aligned in straight rows and columns with a minimum of two lines of orientation.

Paragraph 7.11.2.42 of APP-019 – we recognise that larger commercial vessels are less likely to plan their passage through the array, however it must also be recognised that vessels may be required to navigate within an array due to unexpected circumstances.

Paragraph 7.11.2.44 of APP-019 – multiple lines of orientation and grid layouts provide more options for safe internal navigation and SAR access. Fishing vessels may follow seabed features when actively fishing however when transiting through a wind farm we would expect the turbine positions and alignment to have more of an influence on safe navigation.

3. **Marking and Lighting.**

MCA will seek to ensure the turbine numbering system follows a 'spreadsheet' principle and is consistent with other windfarms in the UK. All lighting and marking arrangements will need to be agreed with MCA and Trinity House. The MCA requires all aviation lighting to be visible 360° and compatible with night vision imaging systems, as detailed in CAP 764 and MGN 654 Annex 5.

4. **Emergency Response and Search and Rescue.**

A SAR checklist based on the requirements in MGN 654 Annex 5 will need to be completed in agreement with MCA before construction starts. This will include the requirement for an

approved Emergency Response Co-operation Plan (ERCoP) and will be incorporated as a condition of the Marine Licence.

During SAR discussions, particular consideration will need to be given to the implications of the site size and location. Attention should be paid to the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice with Digital Selective Calling (DSC)) that can cover the entire wind farm sites and their surrounding areas. It will be expected that Hornsea 4 provide this AIS and VHF capability to the MCA with direct access to HM Coastguard systems.

Paragraph 13.4.1 of APP-081 – in addition to the number of incidents per turbine in the UK it would be useful to know the number of incidents per wind farm.

Chapter 17 of APP-081 – we would suggest the PIANC guidance on Electromagnetic Radiation would be a useful reference document for this chapter.

Paragraph 7.11.1.37 of APP-019 - it mentions there have been construction vessel allisions at low speed, however we note the Island Panther allided with Sheringham Shoal offshore wind farm at 12kts which would not be considered a slow speed.

Paragraphs 7.11.1.61 to 7.11.1.64 of APP-019 – the increased presence of industry resources and the benefits they can bring to third party SAR and in responding to their own resources is recognised, however there is still an increase workload to SAR both through coordination and on the resources, hence MCA's need for access to AIS and VHF capability to HM Coastguard. For example, between 2020 and 2022 at Hornsea 1 and Hornsea 2 offshore wind farms, there were 13 recorded medical incidents (6 required a SAR helicopter), a minor environmental spill and an AIS alert for a man overboard that resulted in an extensive investigation but was a false alarm.

Paragraph 7.11.2.64 of APP-019 - it is important to recognise that while Hornsea 4 will have self-help capability, this does not preclude the need for SAR support in the event of an incident.

5. Construction scenarios.

We would expect to see some form of linear progression of the construction programme avoiding disparate construction sites across the development area, and the consent needs to include the requirement for an agreed construction plan to be in place ahead of any works commencing.

6. Hydrographic Surveys.

MGN 654 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager and the UKHO. Further information can be found in MGN 654 Annex 4 supporting document titled 'Hydrographic Guidelines for Offshore Developers', available on our website: <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>.

7. Cable Routes.

Export cable routes, cable burial protection index and cable protection are issues that are yet to be fully developed. However due cognisance needs to address cable burial and protection,

particularly close to shore where impacts on navigable water depth may become significant. Any consented cable protection works must ensure existing and future safe navigation is not compromised. The MCA would accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum.

8. Safety Zones.

The requirement and use of safety zones as detailed in the application is noted, and MCA will comment on the safety zone application once submitted, as a statutory consultee. Safety zones during the construction, maintenance and decommissioning phases are supported. A detailed justification would be required for a 50m operational safety zone, with significant evidence from the construction phase in addition to the baseline NRA required supporting the case. Safety zones around accommodation platforms would be supported.

9. Shipping and Navigation Commitments.

It is understood that the list of commitments in Table 7.10 of APP-019 is the list of embedded risk controls that should be included in the NRA. Referring to a 'commitments register' reference in the NRA hazard log (Table B.1) makes it inefficient for the reader when reviewing the hazard log which is a necessary and lengthy appendix in the document. As such, a risk control log as required under the IMO's Formal Safety Assessment guidance and MCA's NRA methodology guidance documents, has been omitted from the NRA. MCA would not recommend this practice is used and requests all future NRAs submitted by Ørsted includes an appropriate risk control log.

10. Shipping and Navigation Commitment Co177.

MGN372 is guidance to mariners who are unfamiliar of navigating in and around offshore renewable energy installations and to provide them with necessary information and expectations so they can plan their safe voyage accordingly. It is not intended as guidance for developers and their contracted vessels in complying with maritime legislation and MCA would not consider this as a relevant risk control.

11. Hazard Log (APP-083 - Appendix B)

Equipment failure, including onboard navigation equipment, could be added as possible causes of allision in the construction and operation phases.

The reports provide a comprehensive overview of the risk and the comments detailed above are to highlight areas of concern, and items to be addressed by the applicant in consultation with the MCA to ensure the risk to the safety of navigation and the impact on SAR capability remains low.

C.1.1 Development Consent Order (DCO) Volume C1 draft DCO including draft Deemed Marine Licence (DML) (APP-203)

The MCA, Trinity House, UKHO and MMO have an agreed set of navigation conditions (last updated in May 2021) for Deemed Marine Licences, however it does not appear that it has been used for the Hornsea 4 Deemed Marine Licences. We would request the following amendments are made to the following conditions concerning shipping, navigation and SAR:

Schedule 11, Part 2

1. 7(9) should read:

*The undertaker must ensure that a local notification to mariners is issued at least 14 days prior to the commencement of the authorised project or any part thereof advising of the start date of Work No. 1 and the expected vessel routes from the construction ports to the relevant location.
Copies of all notices must be provided to the MMO, MCA and UKHO within 5 days.*

2. 7(10) should read:

The undertaker must ensure that local notifications to mariners are updated and reissued at weekly intervals during construction activities and at least 5 days before any planned operations (or otherwise agreed) and maintenance works and supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme approved under deemed marine licence condition 13(1)(b) and monitoring plan approved under condition 13(1)(f).

Copies of all notices must be provided to the MMO and UKHO within five days of issue, save for in the case of a notice relating to operations and maintenance, which must be provided within 24 hours of issue.

3. 7(12) should read:

In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, the undertaker shall as soon as reasonably practicable and no later than 24 hours following the undertaker becoming aware of any such damage, destruction or decay, notify MMO, MCA, Trinity House, the Kingfisher Information Service of Seafish and the UKHO.

4. 7(13) should read:

In case of exposure of cables on or above the seabed, the undertaker must within three days following identification of a potential cable exposure, notify mariners and inform Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the MMO, MCA, Trinity House, and the UKHO within 5 days.

5. 7(15) should read:

The undertaker must ensure that the MMO, the MMO Coastal Office, MCA, local mariners, local fishermen's organisations and the Source Data Receipt Team at the UK Hydrographic Office (UKHO), Taunton, Somerset, TA1 2DN (sdr@ukho.gov.uk) are notified within five working days of completion of the authorised project or any part thereof in order that all necessary amendments are made to nautical charts.

6. 13(1) should include:

...in consultation with, where relevant, Trinity House, MCA and UKHO...

7. 13(a)(i) should include:

...the grid coordinates of the centre point of the proposed location for each wind turbine generator, platform, substation and meteorological mast...

8. 17(2)(a) should include:

The survey shall include all proposed cable routes.

This should fulfil the requirements of MGN654 and its supporting 'Hydrographic Guidelines for Offshore Renewable Energy Developers', which includes the requirement for the full density data and reports to be delivered to the MCA and the UKHO for the update of nautical charts and publications This must be submitted as soon as possible, and no later than three months prior to construction. The Order Limit shapefiles must be submitted to MCA. The Report of Survey must also be sent to the MMO.

9. 18(2)(b) should read:

...vessel traffic monitoring by automatic identification system for the duration of the construction period, including annual reporting to the MMO, Trinity House and MCA;

10. An additional condition is requested for a hydrographic survey of the gap between Hornsea 4 and Hornsea 2:

A swath bathymetric survey to IHO Order 1a of the area between the Offshore Order Limits and Hornsea 2 Offshore Wind Farm, must be undertaken.

This should fulfil the requirements of MGN654 and its supporting 'Hydrographic Guidelines for Offshore Renewable Energy Developers', which includes the requirement for the full density data and reports to be delivered to the MCA and the UKHO for the update of nautical charts and publications This must be submitted as soon as possible, and no later than [three months] prior to construction. The Order Limit shapefiles must be submitted to MCA. The Report of Survey must also be sent to the MMO.

11. An additional condition is requested under 19 for post-construction traffic monitoring:

Post construction monitoring must include vessel traffic monitoring by automatic identification system for a duration of three consecutive years following the completion of construction of authorised project, unless otherwise agreed in writing by the MMO. An appropriate report must be submitted to the MMO, Trinity House and the MCA at the end of each year of the three-year period.

12. 24 Completion of Construction - an additional requirement is requested for providing as-built infrastructure coordinates to MCA for including in Search and Rescue systems software:

(1) The undertaker must submit a close out report to the MMO, MCA and the relevant statutory nature conservation body within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following details—

(2) the final number of installed wind turbine generators;

(3) as built plans; and

(4) latitude and longitude coordinates of the centre point of the location for each wind turbine generator and offshore platform, substation and meteorological mast, preferably as Geographical Information System data referenced to WGS84 datum.

Schedule 12, Part 2

13. 7(9) should read:

The undertaker must ensure that a local notification to mariners is issued at least 14 days prior to the commencement of the authorised project or any part thereof advising of the start date of Works No. 2, 3, 4 and 5 and the expected vessel routes from the construction ports to the relevant location.

Copies of all notices must be provided to the MMO, MCA and UKHO within 5 days.

14. 7(10) should read:

The undertaker must ensure that local notifications to mariners are updated and reissued at weekly intervals during construction activities and at least 5 days before any planned operations (or otherwise agreed) and maintenance works and supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme approved under deemed marine licence condition 13(1)(b) and monitoring plan approved under condition 13(1)(f).

Copies of all notices must be provided to the MMO and UKHO within five days of issue, save for in the case of a notice relating to operations and maintenance, which must be provided within 24 hours of issue.

15. 7(12) should read:

In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, the undertaker shall as soon as reasonably practicable and no later than 24 hours following the undertaker becoming aware of any such damage, destruction or decay, notify MMO, MCA, Trinity House, the Kingfisher Information Service of Seafish and the UKHO.

16. 7(13) should read:

In case of exposure of cables on or above the seabed, the undertaker must within three days following identification of a potential cable exposure, notify mariners and inform Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the MMO, MCA, Trinity House, and the UKHO within 5 days.

17.7(15) should read:

The undertaker must ensure that the MMO, the MMO Coastal Office, MCA, local mariners, local fishermen's organisations and the Source Data Receipt Team at the UK Hydrographic Office (UKHO), Taunton, Somerset, TA1 2DN (sdr@ukho.gov.uk) are notified within five working days of completion of the authorised project or any part thereof in order that all necessary amendments are made to nautical charts.

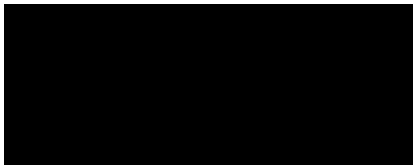
18.13(1) should include:

...in consultation with, where relevant, Trinity House, MCA and UKHO...

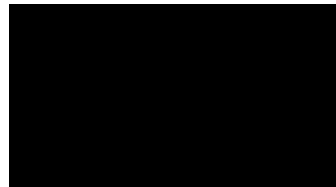
19. An additional condition is requested under 19 for a post-construction hydrographic survey:

The undertaker must conduct a swath bathymetric survey to IHO Order 1a of the installed export cable route and provide the data and survey report(s) to the MCA and UKHO. The MMO should be notified once this has been done, with a copy of the Report of Survey also sent to the MMO.

Yours faithfully,



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