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National Infrastructure Planning
Temple Quay House
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Bristol, BS1 6PN

17 February 2023

Your ref: EN010109

Dear Sir/Madam

Application by Equinor for an Order Granting Development Consent for the Sheringham and Dudgeon Extension Projects.

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

Examination Timetable – Deadline 1 – Written Representation

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 (SAR) 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:

Summary

MCA is content with the Formal Safety Assessment process the applicant has taken in assessing risks to shipping and navigation, however MCA has concerns that the reductions in navigable sea room has not been appropriately represented for assessing vessel collision and allision risk:

- Increased collision risk when navigating to the west of the northern Dudgeon Extension array.
- Appropriate application of MCA corridor guidance.
- Presentation of collision and allision risk within the hazard log.
- Reductions in sea room suggest the hazard log scores are underestimated.
- Appropriateness of the Navigation Management Plan as an additional risk control for reducing hazards to As Low As Reasonably Practicable (ALARP).

MCA therefore suggests the red line boundary is revised to reduce these risks.

Comments have been provided on conditions within the DCO under Schedules 10, 11, 12 and 13.

6.1.13 Environmental Statement Chapter 13 – Shipping and Navigation (APP-99) and 6.3.13.1 Environmental Statement Appendix 13.1 – Navigation Risk Assessment (APP-198).

Equinor has undertaken a detailed Navigation Risk Assessment (NRA) in accordance with MCA guidance MGN (Marine Guidance Note) 654 and NRA risk assessment methodology. We are satisfied that appropriate traffic data has been collected in accordance with MGN 654, which includes two 14-day marine vessel traffic surveys in July/August 2020 and January/February 2021, supplemented by 12 months of AIS data from 2019. Key and appropriate stakeholders were identified, and the 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. **Navigable sea room and collision risk**
   The NRA and Shipping and Navigation Chapter recognises the baseline collision rate is high (1 in 9.6 years) due to the current high volume of traffic, shallow banks and neighbouring offshore wind farms. The assessment concludes that collision risk rises to 1 in 8.5 years assuming no increase in traffic volume, or 1 in 7 years with 10% increase in traffic, or 1 in 6 years with 20% increase in traffic. It is recognised that the traffic volume between the sites will increase as a result of cumulative effects of other consented wind farms. The navigable sea room between the existing Sheringham Shoal and Dudgeon wind farms is currently 8.2NM wide. Commercial vessels will typically ensure a safety buffer of at least 1NM between their course and an offshore wind farm boundary and the traffic study shows this is 1.5NM. 90% of this traffic transits in a ‘corridor’ 5.5NM wide and the introduction of the two extension projects will reduce this corridor to 3.6NM of sea room; a reduction of sea room of 34%.

   The irregular shape of the Dudgeon Extension will result in further loss of sea room to the west of the northern array. Vessels transiting east of Triton Knoll offshore wind farm (in the Outer Dowsing Channel) are constricted by the Dowsing Shoals and shallow water east of Triton Knoll into a route 2.5NM wide (90th percentile). The western boundary of the northern Dudgeon Extension array encroaches into this route and reduces the width to 2NM, however when a safety buffer is applied, it is likely that 90% of vessels will be constricted into a navigable space of 1NM wide. This does not appear to have been considered for assessing the potential frequency of encounter and collision likelihood scores within the hazard log.

   In Fig 18.1 of the NRA the 20% corridor guidance from MGN 654 has been used to show the minimum width required for the 11.2NM long corridor between the extensions should be at least 4.1NM. The boundaries at the narrowest point are 5.6NM apart, however it is noted that shallow banks marked by the East Dudgeon buoy potentially extend the corridor length a further 6.5NM to the northwest since there is no safe sea room to the west of a line between the East Dudgeon buoy and the northern corner of the Sheringham Shoal Extension boundary. As such, is it arguable the length of the corridor would be 17.2NM and the required width as per the guidance in MGN 654 should be at least 6.25NM.

   Annex F of the NRA (Hazard Log) does not include a hazard for assessing collision risk between two third party vessels as a result of reduced sea space. Collision risk is mentioned in Hazard ID C1, C2, C7 and C8 (Displacement from wind farm sites resulting in increased collision risk) for the construction and operational phases, however there is a focus on deviation and commercial concerns. For instance, the most likely consequences of these

hazards were assessed with a score of 1 - Negligible (no perceptible impact) which is not a realistic consequence of a collision between two third-party vessels. The likelihood of a worst-case consequence of a collision between two third-party vessels was assessed with a score of 1 (<1 occurrence per 10,000 years) which is also unrealistic in this already high-risk area. In addition, the consequence scores of all remaining collision and allision hazards in the most likely scenarios are all scored as 1 (no perceptible impact) which appears to be an underestimation of the likely outcomes.

Collision risk is discussed in section 21.1.3.1 of the NRA, however it is not understood how the future collision risks have been predicted using the hazard log scores. The predicted increase of 13% collision frequency at current traffic levels may have been underestimated, in which case changes to the red line boundaries must be considered.

2. **Shipping and Navigation Mitigation Measures**

The list of embedded risk controls in Table 20.1 of the NRA and Table 13.3 of the Shipping and navigation ES Chapter is appropriate and it is noted that a Navigational Management Plan is the only additional mitigation measure proposed for reducing risk to As Low As Reasonably Practicable (ALARP). It is understood the Navigation Management Plan (NMP) will be developed to manage and mitigate impacts associated with crew transfer vessels during the construction, operation and major maintenance phases.

Promulgation of project vessel procedures in a Navigation Management Plan to regular operators is noted as a mitigation of displacement, however not all transiting vessels will have this promulgated to them. As a risk control for reducing the impact of displacement and for preventing collisions between two third party vessels the NMP is not an effective mitigation measure. Although not specifically worded for a risk of collision between two third party vessels, Hazard C1 does refer to this situation and the NMP is not listed as a further mitigation measure between third party vessels. This implies that there has been no additional mitigation outside of the embedded mitigations to address the predicted large increase in the frequency of encounter.

It should be noted that the requirement for an Emergency Response Cooperation Plan (ERCoP), as referenced in Table 13-3 of the ES Chapter 13 Shipping and Navigation, will be secured in the DCO/DML under the condition for complying with MGN 654. There will not be a specific condition for the completion of an ERCoP.

3. **Layout Design**

The turbine layout design must be compliant with MGN 654 and it will require MCA and Trinity House 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. The four layout commitments in Table 20.2 of the NRA are recognised as complying with the guidance in MGN 654. Further advice will be provided to Equinor once the layout discussions have started.

4. **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.

5. **Emergency Response and Search and Rescue.**

There is an expectation that the presence of wind farms will increase the likelihood of the requirement for emergency response, not just from navigational incidents but from other incidents such as medical evacuation or pollution. 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).

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 Equinor will provide this AIS and VHF capability to the MCA with direct access to HM Coastguard systems.

Chapter 6 of the NRA regarding lessons learned within the offshore industry references SAR helicopter trials at the North Hoyle offshore wind farm in 2005. This is now a dated document and while references may still be made, there may be more benefit in referring to documents written by the MCA in 2019, titled: “MCA report following aviation trials and exercises in relation to offshore windfarms” and “MCA report following aviation trials at Hornsea Project 1 windfarm”.

Figure 12.1 and Table 12.1 in the NRA show RNLI Stations and types of lifeboats, however it should be noted that D-Class lifeboats e.g. Cleethorpes and Withernsea, would not be tasked to an incident at the Sheringham and Dudgeon Extension sites owing to the distance offshore.

Paragraphs 115 and 116 of the NRA should be updated as there are no longer three geographical regions to HM Coastguard. The UK is now divided into six districts and 18 areas: [redacted]

Paragraph 117 of the NRA suggests that the companies typically have all the resources (vessels, helicopters and other equipment) on a regular basis which is inaccurate. It should be caveated to say that SOLAS obligations require vessels to respond to persons or vessels in distress if safely able to do so. It is noted that the presence of turbines may preclude the vessel’s ability to safely respond to those in distress.

Table 13.1 in the NRA includes the incident at Sheringham Shoal offshore wind farm on 21st November 2012, when there were five injuries, however the table states there was no harm to persons.

Chapter 13.4 of the NRA references incidents in European offshore wind farms which although not in the UK, does show that vessels are interacting with windfarms/turbines. We would recommend that an allision/collision per windfarm would be a more accurate representation than per turbine, since it is the presence of the windfarm which the NRA is addressing.

The NRA identifies 172 chartered wrecks in the study area which pose a risk of releasing pollution over time and this may require an environmental response. Within the boundaries of a windfarm, emergency response becomes more complex and this must be considered in the Marine Pollution Contingency Plan.

6. **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.

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. It is noted the export cable will be High Voltage Alternate Current (HVAC) which is expected to have no impact on electro-magnetic fields and ships' magnetic compasses.

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 triggered by a Service Operation Vessel connecting to a wind turbine will not be supported.

Additional minor comments on the Environmental Statement Chapter 13 – Shipping and Navigation (APP-99) and Appendix 13.1 – Navigation Risk Assessment (APP-198):

Document	Section	Comment
ES Chapter 13 – Shipping and Navigation	Glossary of Acronyms	The MAIB is the Marine Accident and Investigation Branch
	Glossary of Acronyms and 13.4.9	Coastguard Operation Centres (CGOC) have been replaced by Maritime Rescue Coordination Centres (MRCC)
	Table 13-2	The calculations are showing the area of a 50m safety zone is greater than the area of a 500m safety zone.
Appendix 13.1 Navigation Risk Assessment	Page numbers	The page numbering is not consistent throughout the document.
	2.3	MGN372 was updated in November 2022. The new reference is MGN372 Amendment 1
	Table 16.1	Reference to MGN 371 is not required in this case as this is an archived document and some statements are not matching latest guidelines MGN-654.
ES Chapter 13 – Shipping and Navigation and Appendix 13.1 Navigation Risk Assessment	General	For future plans and documentation reference to 'Her Majesty's Coastguard' needs to be updated to 'His Majesty's Coastguard' or 'HM Coastguard'.

Draft Development Consent Order (DCO) (APP-024)

Schedule 10, Part 2 and Schedule 11, Part 2:

- Condition 5(1) states the undertaker must issue to the vessel operators a code of conduct to prevent collisions. The vessels' Masters and crew will already be familiar with the International Regulations for Preventing Collisions at Sea, 1972 (enacted into UK law by The Merchant Shipping (Distress Signals and Prevention of Collisions) Regulations 1996), also known as the Collision Regulations or COLREG. The code of conduct must not contradict the vessels' ability in complying with the Collision Regulations. If it is intended for the code of conduct to be part of the vessel operators' Safety Management System under the International Safety Management Code, the MMO does not have the authority to enforce this condition. Further information would be welcomed, noting that MCA will be consulted on the Construction Method Statement under condition 13(1)(c)(vii) where details of codes of conduct for vessel operators must be provided.

- Condition 5(2) states the undertaker must ensure appropriate co-ordination of vessels within its control operating within the Order limits so as to reduce collision risk to other vessels. It must be noted that vessel Masters have ultimate responsibility for ensuring the safety of the vessel and crew, and for complying with the Collision Regulations. MCA would query the appropriateness of this condition as the MMO does not have the authority for enforcing the Merchant Shipping Act.

- Condition 11(7) requires the undertaker to report loss of construction material to the MMO who will decide if the material constitutes a navigation hazard. Such a decision must be made by MCA and Trinity House and we request the condition is amended to reflect this.

- Condition 22(1) requires a close out report to the MMO and statutory nature conservation body within three months of completion of construction which must include latitude and longitude coordinates of the infrastructure. It is important this report is also sent to MCA, Trinity House and the UKHO and we request the condition is amended to reflect this.

Schedule 12, Part 2 and Schedule 13, Part 2

- Condition 4(1) states the undertaker must issue to the vessel operators a code of conduct to prevent collisions. The vessels' Masters and crew will already be familiar with the International Regulations for Preventing Collisions at Sea, 1972 (enacted into UK law by The Merchant Shipping (Distress Signals and Prevention of Collisions) Regulations 1996), also known as the Collision Regulations or COLREG. The code of conduct must not contradict the vessels' ability in complying with the Collision Regulations. If it is intended for the code of conduct to be part of the vessel operators' Safety Management System under the International Safety Management Code, the MMO does not have the authority to enforce this condition. Further information would be welcomed, noting that MCA will be consulted on the Construction Method Statement under condition 13(1)(c)(vii) where details of codes of conduct for vessel operators must be provided.

- Condition 4(2) states the undertaker must ensure appropriate co-ordination of vessels within its control operating within the Order limits so as to reduce collision risk to other vessels. It must be noted that vessel Masters have ultimate responsibility for ensuring the safety of the vessel and crew, and complying with the Collision Regulations. MCA would

query the appropriateness of this condition as the MMO does not the authority for enforcing the Merchant Shipping Act.

- Condition 10(7) requires the undertaker to report loss of construction material to the MMO who will decide if the material constitutes a navigation hazard. Such a decision should be made by MCA and Trinity House and we request the condition is amended to reflect this.

- Condition 21(1) requires a close out report to the MMO and statutory nature conservation body within three months of completion of construction which must include latitude and longitude coordinates of the cable infrastructure. It is important this report is also sent to MCA, Trinity House and the UKHO and we request the condition is amended to reflect this.

MCA contact details in Schedules 10, 11, 12 and 13 should be amended to:

Maritime and Coastguard Agency
UK Technical Services Navigation
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105 Commercial Road
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SO15 1EG
Tel: 020 3817 2554
Email: navigationsafety@mcga.gov.uk

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

Yours faithfully,

[redacted]

Nick Salter
Offshore Renewables Lead
UK Technical Services Navigation

[redacted]

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