Examining Authority's Written Questions and Request for Information (ExQ1)

In response to the Examination Authority's first written questions, issued on 19th November 2019, the MCA would like to comment as follows

| ExQ1 | Question to: | Question | Response from MCA |
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| 11. Navigation<br>11.0 Marine Navigation and Shipping | | | |
| Q11.0.1 | Maritime and Coastguard Agency (MCA); Trinity House (TH); UK Chamber of Shipping (UKCoS) | **Radar interference effects on navigation deviated around the proposed OWF**<br><br>Section 22.8 of the Navigation Risk Assessment (NRA) [APP-569] discusses potential impacts of the Proposed Development on ship-borne marine radar with specific effects discussed at paras 403 to 408, which the ExA understands to indicate that effects increase significantly within 1.5nm of the OWF WTG array. Figure 22.1 of the NRA shows the deviation of shipping around the proposed OWF that would be an effect of the Proposed Development and shows vessel routes deviating and turning around the north-eastern corner of the proposed OWF through an appreciable angle and within 1.5nm of the Red Line Boundary (RLB).<br><br>IPs to comment on the implications to navigational safety of vessels passing closer than 1.5nm to the proposed WTG array RLB at the north-eastern extent of the OWF array | The North Hoyle wind farm research back in 2004/5 tried to obtain scientific and practical operational data on the performance of various navigation and communications systems within and in the vicinity of offshore wind farms. The research focused on how the performance of systems would be adversely affected, with cost effective solutions recommended.<br><br>Ultra-high frequency and other microwave systems (within the frequency spectrum of the marine radars) suffered from the normal masking effect when turbines were in the line of the transmissions. Although the turbines produced strong radar echoes giving early warning of their presence, at close range however, due to their vertical structures, strong reflecting surfaces and close proximity, turbines may produce multiple reflected and side lobe echoes that can mask real targets on the ships' and other small craft radar displays. These develop at about 1.5 nautical miles, with radar displays becoming worse as the range closes.<br><br>Where a shipping lane passes within this range, considerable interference may be expected along a line of turbines.<br><br>There is little further evidence at present on how this has changed since the growth in size of turbines or on how to mitigate this interference. Vessels will have to adapt accordingly when the interference is identified, and utilise other means, including |

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| | | and whether specific risk mitigation should be considered in this location. | training/familiarisation and other such navigation operational procedures, for the purposes of safe navigation as per SOLAS and the COLREGS. |

| ExQ1 | Question to: | Question | Response from MCA |
|---|---|---|---|
| 11. Navigation<br>11.0 Marine Navigation and Shipping | | | |
| Q11.0.2 | Maritime and Coastguard Agency (MCA); Rijkswaterstaat | **Separation distance to Davy gas platform related to safety of deviated navigation**<br><br>APP-228 ES chapter 15 states 'There is one gas platform (normally unmanned) within the Norfolk Boreas site, associated with the Davy Field. The platforms associated with the Sean Field are positioned north of the Norfolk Boreas site, with the closest being 1.4nm from the boundary.'<br><br>Are MCA and Rijkswaterstaat satisfied at this separation distance of 1.4nm in relation to safety of navigation for shipping routes that may need to deviate around the north of the proposed Norfolk Boreas OWF as referred to in Table 5.3 of [APP-569]? | The introduction of the Norfolk Boreas OWF development will no doubt decrease the available sea room in this area and as a result will push vessels around to the north of the site. We note that there are a few vessel routes passing to the north in close proximity to three platforms in the Sean Field. These will likely have a 500m exclusion zone around them, further constricting the area.<br><br>It is difficult to say whether 1.4nm is an acceptable distance, as it would depend on the size and type of vessel deviating to the north, the met ocean conditions, experience of the master and knowledge of the area etc., and whether they consider the available sea room as sufficient. Further consultation with those expected to deviate to the north would be useful here. |