

Hornsea Offshore Wind Farm

Project Two

Summary of Oral Case – Issue Specific Hearing 15 September 2015

**Appendix I to the Response submitted for Deadline III
Application Reference: EN010053**

24 September 2015

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**SUMMARY OF ISSUE SPECIFIC HEARING HELD ON 15th SEPTEMBER 2015
SUBMITTED FOR DEADLINE III**

1.	Welcome
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- 1.1 Following an introduction from the Ex. A, the Applicant, along with other parties in attendance, introduced its representatives.

2.	Acquisition of the Project by DONG Energy
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- 2.1 The Ex. A sought clarification on the implications of the acquisition by DONG Energy Power (UK) Limited of the entire share capital of the Applicant (being SMart Wind Limited as agent on behalf of the Project Companies (Optimus Wind Limited and Breesea Limited)).
- 2.2 The Applicant confirmed that International Mainstream Renewable Power (Offshore) Limited and Siemens Project Ventures GmbH no longer have any involvement in the Project. An Update to the Statement of Reasons was submitted to the Planning Inspectorate on 10 September 2015 and an Updated Funding Statement was submitted to the Planning Inspectorate on 14 September 2015, both of which are intended to narrate the new ownership structure.
- 2.3 The Applicant explained that all relevant stakeholders had been notified of the transaction including all persons who have made a written or relevant representation in respect of the Examination, all parties to be notified under section 56 of the Planning Act 2008 ("PA 2008") and all persons who have registered an interest in the Hornsea Zone on the SMart Wind website. No representations have been received from any section 56 parties or any parties who had registered an interest on the website.
- 2.4 As noted in the Compulsory Acquisition Summary of Oral Case (Appendix K of the Applicant's response to Deadline III) the Applicant intends to submit a composite Version 2 of the Statement of Reasons at Deadline IV.
- 2.5 The Applicant confirmed that the dual project structure currently within the draft DCO would continue to be sought as part of the Application, regardless of this change of ownership.

Onshore Co-operation Requirement

- 2.6 The Ex. A noted that within the onshore corporation Requirement (Requirement 26) there is currently no ability for the Local Planning Authority (LPA) to compel a meeting (as there is in the offshore equivalent). Whilst the Applicant and East Lindsey District Council both consider the current drafting to be sufficient, the Ex. A asked the Applicant to consider making explicit the potential for discussion either in Requirement 26 or perhaps in the Code of Construction Practice (CoCP).
- 2.7 The Applicant has considered this further internally and whilst the Applicant does not feel that it is necessary to include provision for the LPAs to call liaison meetings since the LPAs have not raised any particular concerns in relation to the overlapping works and it is the Applicant's view that current onshore co-operation requirement is sufficient for the LPA to be comfortable that there is no conflict between the undertakers, the Applicant is nevertheless prepared to include some additional text in the onshore co-operation requirement to make provision for the LPAs to call liaison meetings and would propose to include the following new paragraph in Requirement 26 of the draft DCO:

(4) Each undertaker must participate in liaison meetings with the other undertaker under this Order as requested from time to time by the local planning authority in writing in advance, which meetings shall be chaired by the local planning authority and shall consider such matters as are determined by the local planning authority relating to the efficient construction and operation of the Project A works above

MLWS where they have an impact on the efficient construction and operation of the Project B works above MLWS, and vice versa.

- 2.8 The Applicant intends to update the next iteration of the draft DCO to include this additional wording at Deadline IV.

Co-operation with the Hornsea Project One Companies

- 2.9 The Applicant confirmed, along with legal representation for the Hornsea Project One Companies, that all matters between the Project and Hornsea Project One have now been agreed. The Ex. A queried the blank spaces regarding the number of metres in the draft protective provisions for the benefit of the Hornsea Project One Companies (see Schedule 1 of the Statement of Common Ground (“SoCG”) between the parties submitted as Appendix A of the Applicant’s submission of 10 September 2015). This point has now been finalised and the Applicant can confirm that the relevant figures are as follows:

““specified works(s)” means so much of any work or operation authorised by this Order (or any amendment to this Order or authorised by any planning permission or marine licence intended to operate in conjunction with this Order) as is:

- (a) in, on, under, over, or within 500 metres of a proposed Hornsea One Circuit Route and/or existing installed electrical circuit (seaward of MHWS); or*
- (b) in, on, under, over, or within 25 metres of a proposed Hornsea One Circuit Route and/or existing installed electrical circuit (landward of MHWS); or*
- (c) in, on, under, over, or within 1000 metres of other apparatus installed or to be installed a part of Hornsea One”*

- 2.10 The Applicant will make the necessary updates to include these figures when incorporating the protective provisions into the next iteration of the draft DCO for Deadline IV.
- 2.11 Further to the Ex. A’s question in relation to the cable crossings onshore for Project One and Project Two the Applicant wishes to clarify that in light of further refinements of Project One’s proposed connection into the National Grid substation it is likely that both projects’ cable connections will cross.
- 2.12 Regarding the potential for an integrated approach between the Project and Hornsea Project One, the Applicant confirmed that the fact that the projects now have the same ultimate owner does not change the commercial imperative that both are regarded as two distinct and separate projects.
- 2.13 The development of an offshore wind project is complex and there are a number of interrelated steps to be taken, including obtaining a Development Consent Order, seeking and obtaining funding partners, potentially seeking Contracts for Difference, procurement and Final Investment Decisions, and divestiture of transmission assets to an Offshore Transmission Owner (OFTO). Project One is ahead in this process having already secured development consent and a FID-ER Contract for Difference. Any attempt to make the projects interdependent would seriously prejudice the commercial viability of the Project.
- 2.14 The Applicant acknowledged that there was an area of land within the northern portion of plot 506 which overlaps with the consented area for Hornsea Project One. The Hornsea Project One Companies have confirmed that all of that part of that land is required for Project One. As such (and as the Applicant thereafter confirmed to the Ex. A) the Applicant has made a formal request to the Ex. A to remove the northern part of plot 506 from the Order land. This request has been made in the Applicant’s response to Deadline III. The Applicant has also made a formal request that the corridor route which currently passes through the consented offshore Hornsea Project One array is removed from the scope of the Application. This request has been made in the Applicant’s response to Deadline III.
- 2.15 With regard to the compensation compounds sought within the draft DCO, these compensation compounds and means of access to those compensation compounds are required to compensate Project One and reduce the impacts of the Project on Project One in the event of a simultaneous or overlapping construction programme, or in the event that Project Two construction has completed prior to the commencement of the Project One

construction. These compounds have been identified to mitigate the impacts of the Project on Hornsea Project One no more than is necessary and there is no scope for reduction regardless of common ownership between the projects. It is not the case that if the projects were designed with closer cooperation for example that the scope of the compensation compounds required could have been less. The scope of compensation compounds sought is already the minimum.

- 2.16 The Ex. A referred to the request from Associated British Ports that cable laying activities within their area be carried out by the Project and Hornsea Project One concurrently and asked if any progress has been made in respect of this request. This is not something which the Project can commit to.
- 2.17 The RSPB queried whether a single owner had been considered in the HRA. The Applicant confirmed that both in terms of EIA and HRA three development scenarios were considered (i.e. Project one constructing first, the Project constructing first, or both Project One and the Project constructing at the same time) and no revised scenarios are required as a result of both Project One and the Project having the same owner. The Applicant noted that both the MMO and Natural England also confirmed that aside from encouraging cooperation between the Project's the assessment validity has not changed for either the EIA or the HRA.

Update on C.GEN Killingholme Limited

- 2.18 The Ex. A requested an update in respect of the position with C.GEN Killingholme Limited ("C.GEN"). Protective provisions have now been agreed with C.GEN as set out in a joint submission between the parties published on the Planning Inspectorate website on 16 September 2015. In that letter, which is signed by both the Applicant and C.GEN, C.GEN has withdrawn all representations and objections previously made in respect of the Application. The Applicant has enclosed at Appendix M of the response to Deadline III a copy of this letter, a copy of the agreed form of protective provisions and a protective provisions plan. The Applicant intends to update the next iteration of the draft DCO to include these protective provisions for Deadline IV.
- 2.19 The Ex. A queried the formulation of the drainage protections within the agreed C.GEN protective provisions. The Applicant noted that drafting is intended to mirror the common law right which the Applicant currently enjoys in respect of the drain. It also mirrors the protection for C.GEN in the Hornsea Project One DCO. The Ex. A also queried the link between Article 15 of the draft DCO (Discharge of water) and the protective provisions for C.GEN and in this regard the Applicant noted that the protective provisions offer C.GEN protection beyond that included in Article 15 of the draft DCO.

Rochdale Envelope

- 2.20 The Applicant confirmed to the Ex. A that it took on board the developments in the Rochdale Envelope for Project One which occurred during the Project One examination and incorporated this into a reduced design envelope (e.g. omitting smaller turbines) at the outset within the Application for the Project. The Applicant noted that it considers the Project's Rochdale Envelope to be realistic at this stage of the Project's design. The Applicant considers the Project to be consentable in its current form.

National Grid Connections

- 2.21 The Ex. A sought clarity regarding the potential connections into the National Grid substation.
- 2.22 The Applicant can confirm that it has agreed protective provisions with Hornsea Project One and this will regulate relationships between the projects including within the areas of the grid connection. Hornsea Project One has withdrawn all representations to this examination. The Applicant can further confirm that it has agreed protective provisions with C.GEN and this will regulate relationships between the projects including within the areas of the grid connection.

C.GEN has withdrawn all representations to this examination. The Applicant is also close to agreement with National Grid on the form of protective provisions, which will regulate any interaction between the Project and National Grid assets within the area of the grid connection. The Applicant anticipates the parties will be in a position to confirm agreement and submit agreed protective provisions at Deadline IV. In addition, National Grid has written to the Applicant confirming that their grid connection was possible (see Schedule 1 to the Cable Statement (Doc Ref No: 11.2)). The Applicant can confirm that it sees no impediment to the Project, Hornsea Project One and C.GEN connecting to the grid.

- 2.23 The Applicant other provided a plan of indicative cable corridors showing potential options for the grid connection for the three projects at Appendix E of the Applicant's response to Deadline IIA.

3.	Traffic and Transport
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- 3.1 Prior to the Hearing the Applicant provided the Ex. A with a copy of a Table which updates and amends Table 1 within Appendix P of the Applicant's response to Deadline I. A copy was also circulated around the room and the Ex. A invited the Applicant to make submissions in relation to it. A copy of this Table has been provided at Appendix N of the Applicant's response to Deadline III.
- 3.2 The Applicant explained that the calculation of vehicle numbers has been undertaken on the basis of 19 route sections and the onshore HVDC converter station/HVAC substation. The route sections are shown in Figure 8.2 of Volume 3, Chapter 8, Traffic and Transport of the ES (Doc ref No. 7.3.8). The calculations of vehicle numbers for each route section are set out in Appendix C, Volume 6, Annex 6.8.1: Transport Assessment of the ES (Doc ref No. 7.6.8.1). The Applicant explained that each route section has a number of compounds and a number of access points.
- 3.3 The Table has been updated to include the total vehicle numbers and staff numbers calculated for each route section, giving the worst case for Project Two alone. Where compound numbers are highlighted in magenta, these were originally presented in route section 15 within Appendix P of the Applicant's Response to Deadline I however the Table has been updated to include them within route section 16 (as calculated within the Volume 3, Chapter 8, and Annexes 6.8.1 to 6.8.9 of the ES). The compounds themselves are unchanged however the route sections that these compounds are part of has been corrected to be consistent with the assessment undertaken, with Habrough Road forming the boundary between route section 15 and route section 16.
- 3.4 The locations of the Project Two compounds and access points are presented in the Works Plans. Some access points connect with compounds whilst other access points connect with the haul road along the cable route corridor.
- 3.5 The cumulative impact of the Project and Hornsea Project One's has been considered in the cumulative assessment (Doc Ref No: 7.3.8).

4.	Construction Onshore and Inter-tidal
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Construction window

- 4.1 The Ex. A sought clarity on the period for construction in the intertidal area (specifically relating to whether the ducting would take place within the first phase). Phase One comprises installation of all ducts and the initial installation of cables. Phase One would be a maximum of a three year period, with all ducting being installed within that Phase. It is anticipated that a maximum of four ducts could be installed per year and therefore, if eight ducts are required then ducting installation will take place over more than one year, but still within the overall

Phase One three year period (with year three less likely to be required, but necessary as a contingency for ducting). The detail of this is depicted below:

Phase	Detail	Year 1	Year 2	Year 3	Year 4	Year 5
Phase 1	Ducting			Contingency		
	Cables					
Phases 2-4	Cables					

- 4.2 The Applicant notes that the seasonal construction window (April to September) has made provision for delays (such as production, loading, transport, availability of vessel and last but not least weather), the likelihood of which cannot be discounted (and therefore, the need for the current proposed timings). If the construction window is shortened further (as per the RSPB request), then there would not be any capacity to accommodate it, with the likely result being an increase in the overall construction period (i.e., a requirement for a further season to complete the works), which would in turn have its own environmental consequence as recognised by the Ex. A.

Tide height restriction

- 4.3 The Ex. A requested an update in relation to the status of discussions in respect of the concerns raised by RSPB about the use of a 7.7 m tide at Grimsby to control operations over the intertidal zone. The RSPB noted that 7.7 m measured at Grimsby is the same as 6.5 m measured at Chart Datum (CD) and the RSPB requested clarity that the intention is for the requirement to take effect for tides of 6.5 m measured at CD. The Applicant confirmed that the assessment carried out for in-combination effects from the Project and Hornsea Project One (which predicted no significant impacts or adverse effects on integrity of sites) assumed that the restriction would only take effect for tides of 7.7 m measured at CD and therefore the intention was for the condition to take effect for tides of 7.7 m measured from CD.
- 4.4 Natural England noted that the Applicant had advised (that a restriction on works when the tide was 6.5 m measured from CD would restrict the undertaker too much. The Applicant is continuing discussions with Natural England on this point (and will also have discussions with RSPB on this point) however the Applicant noted that it does have a material concern about the implications that changing the current drafting would have on construction programme (and the associated consequence of this).
- 4.5 The RSPB further requested that this condition apply to Project Two alone. The Applicant noted that this has always only been a cumulative requirement and that it would not be appropriate to make this condition apply to Project Two alone.

Condition 20(3) of the draft DMLs

- 4.6 The Ex. A asked if any progress had been made in respect of the RSPB’s request that the wording “*unless otherwise agreed in writing with the MMO, in consultation with Natural England*” be deleted from Condition 20(3). The Applicant noted that the inclusion of this wording would be restricted by Condition 18(2) of the DMLs and would therefore not permit the subsequent approval of any works that are not in accordance with the principles and assessments set out in the ES. The Applicant requires the flexibility provided by this wording in order to cover a situation where, for example, construction were to run into the overwintering period by a couple of days. Such works would only be permitted if the Applicant could demonstrate to the satisfaction of the MMO (in consultation with Natural England) that such works are unlikely to give rise to any materially new or materially different environmental effects from those assessed in the Environmental Statement. Natural England confirmed that they are content with the current wording of Condition 20(3).

Stable seabed

- 4.7 The Ex. A queried what stable seabed is and how it is measured. The phrase 'stable sea bed' is referring to 'minimum recorded beach levels'.
- 4.8 Intertidal areas are dynamic environments, in terms of physical processes, and can be prone to bed level changes over time. This dynamic behaviour has been considered at the Project Two landfall and in terms of the risk of future exposure of buried cables across the intertidal. The Applicant is seeking to manage the risk of cable exposure across the intertidal through burial to an optimum depth.
- 4.9 The approach that has been taken to determining what an appropriate burial depth would be, has involved developing a quantified understanding of historic recorded bed levels across the intertidal. At the location of the landfall, a 21 year historic dataset has been analysed consisting of beach profile data collected by the Environment Agency as part of its monitoring activities. Analysis of these data allowed a quantified understanding to be developed of the historic variation in beach levels at the landfall site.
- 4.10 More specifically the dataset analysed consisted of bi-annual topographic data from 1991 to 2012 at a number of relevant profile locations, together with available bathymetric data (over the same time period). The data demonstrated different degrees of variability in beach levels along the length of the profiles. More specifically, bed level variations of around 0.5 m were recorded above Mean Sea Level (MSL), whilst between MSL and lowest astronomical tide (LAT) variations of up to 3 m were recorded and below LAT variations of up to 1 m were recorded over the 21 year period. It is suggested that the larger variations in the lower intertidal (MSL to LAT) can be attributed to the migration of the drainage gully on the foreshore.
- 4.11 This analysis captured the 'envelope' of vertical beach level change experienced at the landfall historically. The Marine Processes ES Chapter (Volume 2, Chapter 1 of the ES (Doc ref No 7.2.1), paragraph 1.6.288) subsequently recommends a target burial depth of 2 m below the minimum recorded beach levels, across the length of the profile.
- 4.12 This recommendation is intended, firstly, to ensure the cable is buried below the depth of recorded beach levels to manage the risk of exposure, and secondly, is intended to capture any changes to levels that may occur at the landfall that may be outside of the envelope of historic recorded levels. For example, any future greater level of beach lowering.
- 4.13 Based on the assessment undertaken as part of the EIA and summarised here, the actual burial depth is variable across the profile, depending upon the minimum recorded beach level. The upper intertidal is relatively stable with minimum levels approximately 0.5 m of variation, whilst the most dynamic part of the profile shows 3 m of variation. Based on this, burial could be up to 5 m below the actual seabed across parts of the intertidal (noting that the 'actual' bed level varies over time and may be different at the point of installation to that in the latest dataset analysed within the EIA).
- 4.14 It is noted that burial depths are controlled by the draft DMLs in terms of the pre-commencement approvals process via the Cable Specification and Installation Plan (pursuant to Condition 10(2)(f)). This plan is required to include a detailed Cable Laying Plan and Cable Burial Depth Assessment (pursuant to Condition 10(2)(f)(ii)). This plan will enable the most up to date beach profile (bed level) data to be considered, so that any notable changes in bed levels between the completing of the analysis within the EIA and a time closer to installation to be factored into the bed levels. This assessment will also take into account cable burial feasibility across the intertidal.
- 4.15 The subject of burial depth across the intertidal has been discussed through the consultation process with a number of stakeholders, in terms of the datasets used and approach taken (for example the Environment Agency and MMO) and agreement has now been reached with all parties in relation to this subject.

Phases and timing of P2 ducting installation

- 4.16 Integrated ducting with Project One is not appropriate for a number of reasons. The Project One DCO has already been granted and it did not include rights to install ducts for Project Two. In addition and as noted above, the projects are on different development timescales, with Project One currently proceeding ahead of Project Two. In the future the projects may have different funders and potentially different development partners, the commercial viabilities of which should not be prejudiced by interdependence.
- 4.17 Whilst it is not appropriate for integrated ducting to be committed to within the draft DCO, where both projects are constructing closely together, this will be controlled by the approval mechanisms in relation to the pre-construction plans and the provisions of the Memoranda of Understanding entered into between the parties (see Schedule 2 of the SoCG submitted on 10 September 2015).
- 4.18 At the Hearing the Applicant acknowledged that the DCO for East Anglia ONE included the power to install ducting for subsequent East Anglia projects. As noted above however no such powers were included in the Project One DCO and on this basis it would not be possible for Project One to install the ducts for the Project. Furthermore, the Applicant has not sought the powers to install ducts for Project One in the event that the Project is installed first. Therefore the current situation is different from the circumstances in East Anglia ONE where the power to install ducts for subsequent East Anglia projects was sought within the DCO as part of the East Anglia ONE project.

Management

- 4.19 The Applicant committed to include a requirement in the draft DCO for an intertidal access management plan. As noted however the detail of the plan is still under discussion and the Applicant intends to provide an update in relation to the plan and the wording of any requirement at Deadline IV.
- 4.20 RPSB stated that it would like to see the role of the ECoW expanded. The Applicant highlighted that Condition 10(2)(c)(viii) of DMLs A2 and B2 requires the project environmental management and monitoring plan to include details of the appointment and responsibilities of an intertidal ECoW. The responsibilities of the ECoW (which for intertidal birds is set out in paragraph 4.2.134 of the outline CoCP (Doc Ref No 12.4) will therefore be approved by the MMO in consultation with Natural England at the relevant time prior to construction. The Applicant is therefore of the view that no further detail on the responsibilities of the ECoW is required to be included in the DCO.
- 4.21 The Applicant has taken on board the comments by the Ex. A that it would be useful to have a visual explanation of the interaction of the management plans. The Applicant refers to the Overview of Management Plans document which sets out this information in tabular form. The Applicant has also included at Appendix X of the response to Deadline III an Organogram showing all of the pre-construction plans and documents as requested.

Location of Facilities

Port selection criteria

- 4.22 The Ex. A queried the location of ports which would be used for the lifetime of the Project. The Applicant has set out the range of factors which will be determinative in deciding which ports are utilised. The selection of ports for construction and O&M work will be undertaken based on a number of objectives, which can be categorised as technical and commercial respectively.

- 4.23 For a construction port, technical considerations include:
- Distance to windfarm site (including routing);
 - Location of component delivery port (including routing);
 - Type of components (construction packages), i.e. turbine, turbine foundations, offshore substation, cables etc. (and so the turbine and foundation packages may use different port facilities for construction);
 - Port facilities, including:
 - Water depths (relating to vessel draft);
 - length of quay (number of vessels that can berth simultaneously);
 - size of area accessible for storing and assembling components;
 - port area characteristics, including load bearing capacity;
 - seabed conditions and suitability for jacking up crane vessels at the quayside.
 - access restrictions:
 - locks, and any tidal restrictions;
 - tides (both within the port and along the route to the open sea).
- 4.24 In addition, there will be commercial considerations including:
- enthusiasm from the port to attract offshore wind energy work (noting DONG Energy has had very good experience with Humberside ports);
 - enthusiasm would be expressed in willingness to negotiate balanced commercial terms however other aspects are also important; offshore wind energy installation vessels cost around £1/4m a day to operate, including vessel lease, personnel, fuel and any associated equipment, hence ensuring that the vessel does not need to frequently wait outside the harbour for other less time-critical manoeuvres to be complete is also important.
- 4.25 In conclusion, until details of the supply and installation contracts are known, it is difficult to determine which ports will be most suitable for the construction work, however the Humberside Ports have shown enthusiasm for undertaking offshore wind energy work, including for DONG Energy, and are well located for the Project, hence would be in a strong starting position to win construction work.
- 4.26 Ports for operational work are likely to be considered together with other offshore wind farms in the area that are within DONG Energy's portfolio, in particular where the same wind turbine model has been deployed. Similar criteria will be considered as for construction, however:
- travel time is of increased importance if technicians are travelling out on a daily basis;
 - space requirements are reduced, for spares and maintenance workshop only;
 - jack-up vessels are not used for normal service work and if necessary could be operated from their home port.
- 4.27 In conclusion, until details of the O&M set-up for other offshore windfarms in the DONG Energy portfolio are finalised, it is difficult to determine which ports will be most suitable for O&M work for this wind farm, however DONG Energy has already selected a Humberside port, Grimsby Royal Dock, for the Westernmost Rough O&M facilities, hence Humberside would be in a strong starting position.
- Consideration of local helicopter options*
- 4.28 Similarly, the selection of airport for helicopter operation will be undertaken based on similar objectives, again which can be categorised as technical and commercial respectively.
- 4.29 Prior to considering the scope of any helicopter strategy, the safety case must be fully reviewed, including all supporting assessments;
- 4.30 For operational work, technical considerations include:
- distance to main O&M base;
 - distance to wind farm site is presumably of secondary importance in terms of overall time;
 - any restriction at the airport.
- 4.31 For operational work, commercial considerations include:

- accessibility (percentage of time that the wind turbine can be reached) using surface vessels, including seasonal variations;
- size of the wind turbine (i.e. value of power being lost during unscheduled downtime);
- range of O&M operations that are appropriate (i.e. scheduled, unscheduled, minor components, major components etc.).

4.32 In the UK, DONG Energy's historical strategy had been to use solely surface vessels for O&M work, however for Westermost Rough, which is the first windfarm to utilise a 6MW wind turbine model, helicopters will be used for some unscheduled maintenance activities. DONG Energy anticipates to deploy helicopters at German and Danish offshore windfarm projects and there is now over ten years of operational experience at the Horns Rev I offshore windfarm, which DONG Energy has a minority stake in now, and is operated by the majority owner, Vattenfall.

4.33 On the English east coast, DONG Energy currently operates O&M facilities for one offshore wind farm, namely Westermost Rough. DONG Energy also has minority interests in a second east coast windfarm, Lincs, which is operated by Centrica with an O&M base located in Grimsby Docks.

O&M Facilities

4.34 DONG Energy's O&M facilities for Westermost Rough are located at Grimsby Royal Dock, on Eastside Road and were built during 2014. The main facilities consist of 900 m² of office and 1,800m² of warehouse space, including workshop and can accommodate the project's 30 technicians and 20 office-based staff. Vessels can be accessed via the adjacent pontoon, with passengers' disembarking and cranes. To enable continuous access to the river, ABP installed new lock gates in late 2014, thus ensuring that Westermost Rough is never more than 75 minutes vessel ride away. In addition, to improve wind turbine availability in more challenging sea conditions, helicopters will also be used and operated from Humberside Airport.

4.35 The O&M facilities for Lincs are also located in Grimsby Royal Dock, on the North Quay, and were built in 2012. The base serves the 270MW Lincs and 194MW Lynn and Inner Dowsing wind farms operated by Centrica, with space for 70 people including technicians and office-based staff, and for spare parts. Vessels are accessed from the pontoon on the inner harbour, which has berths for eight vessels.

5.	Construction Offshore
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Bridge Links

5.1 The Ex. A queried the Applicant's position in relation to a minimum of 22m clearance for bridge links.

5.2 During the early development years of offshore renewable energy, a number of studies were undertaken by the Royal Yachting Association ("RYA") into the main risks associated with wind farm design and recreational craft. One of the key risks identified was the potential for a 'vessel collision with rotating blades' (de-masting). Following the identification of this risk, a study was undertaken into the optimal air draft clearance height based on the recreational vessel data available for the UK. As part of this it identified that only 4% of the group would be likely to experience any issues if the guidance for blade clearance was set at 22 metres above Mean High Water Springs ("MHWS"). Therefore to minimise the potential for a collision with a rotating turbine blade, wind turbine generators are recommended within Marine Guidance Note 371 to have a blade clearance of 22 m MHWS. However this air draft clearance has not been associated with any other fixed structure height offshore and only applies to the blades due to their rotating nature. This means that a minimum and well known air draft clearance height is essential as mariners could not effectively assess the clearance with a moving object as readily as they could with a fixed object.

5.3 Although Bridge Links are a new concept within the offshore renewables industry they have been very widely used within offshore oil and gas developments, as an example the recently

developed Cygnus Alpha Complex in the Southern North Sea has two bridges connecting the three platforms. These bridges have a clearance of 20.9 m above LAT (LAT being lower than a MHWS tidal reading, meaning the 20.9 m clearance would decrease at the MHWS reading). **another example includes Rough Field which has a bridge link constructed at 18 m above LAT. Bridge links are also lit and marked with red subsidiary lights mid span whereas turbine blades are not lit.*

- 5.4 Secondly the MCA (see section 3.12.1 of the SoCG submitted at Appendix PP of the Applicant's response to Deadline I) and Trinity House ("TH") (see section 3.12 of the SoCG submitted at Appendix TT of the Applicant's response to Deadline I) have both agreed that there is a safety case for 500m safety zones for any manned structures within the Project Two development noting that any safety zone will have to be applied for using the Department of Energy & Climate Change (DECC) application procedure. The bridge links will only be required where an accommodation platform is attached to a substation and therefore they will be manned and are likely to have a 500m safety zone in place (following safety zone designation) preventing any craft not associated with the development from transiting in proximity to the bridge link and therefore being at risk from its height. Vessels associated within the development will be familiar with the design of the site; and in adverse conditions, regardless of the bridge links, would make an assessment of risk before approach (Annex 25 of SOLAS V – Guidelines for Passage Planning).
- 5.5 It is also noted that the marine traffic surveys undertaken for the baseline review of Project Two show that small craft vessels movements, those who are likely able to transit under a 22m high bridge link, are limited within the Project Two development area.
- 5.6 The pre-approval mechanism in condition 10(1)(a)(iv) of the draft DMLs will require that bridge links are considered as part of the site layout approval process which requires approval from MMO, in consultation with TH and the MCA. Therefore the bridge link will be assessed and approved by the marine regulators to ensure that they are designed within consideration of the traffic within the area and any other risks that may require a specific height to be defined.
- 5.7 The Ex. A requested comment from the MMO on the Applicant's response to the bridge links matters. The Applicant noted that the MMO confirmed that they were content with the Applicant's response.

Single Marine Controller

- 5.8 The use and suitability of single marine controller has been considered within the SoCG with the MCA. The use of a marine controller can be both for the day to day operations of the development but also for the coordination of emergency response on or in proximity to the Project.
- 5.9 The SoCG with the MCA notes that an approved Emergency Response and Cooperation Plan ("ERCoP") will need to be in place prior to any construction being undertaken and shall be agreed by the MMO in consultation with the MCA, pursuant to Condition 4 of the draft DMLs.
- 5.10 The Applicant's ERCoP will mitigate risk associated with increased activity on site and formalise the coordination of emergency response in conjunction with other providers. The ERCoP will be one element of the Applicant's overall Safety Management System and will include a single point of contact for the development; to which emergency communications will be directed through in the first instance.
- 5.11 The day to day operation will also be managed independently by both Project A and Project B and if this includes separate coordinators there will be communication procedures in place through the ERCoP and through the safety management system (of which the ERCoP forms part) for daily operations to ensure that communication is effective throughout all phases between them.

In-Principle Monitoring Plan

- 5.12 The Applicant confirmed to the Ex. A that a draft In-Principle Monitoring Plan (“IPMP”) has been prepared and submitted to the MMO and NE, who have provided comments. This plan will be useful in informing the Examination and expectations for future monitoring but the Applicant is yet to be convinced of the merits of referring to it in the DCO as it is not intended to be restrictive or prescriptive but rather to act as an aid memoire when it comes to signing off monitoring. The Applicant notes however that both the MMO and Natural England would like to see the IPMP secured within the DCO. The Applicant notes these requests and is minded to provide for such a requirement in the next version of the draft DCO to be submitted at Deadline IV. The Applicant will continue discussions with both parties in the interim to agree appropriate wording.
- 5.13 The Ex. A asked whether any progress had been made in relation to the MMO’s concerns on co-operation between the Project and Project One. The Applicant clarified that interfaces between the Project and Project One will be regulated by the agreed protective provisions for the benefit of Hornsea Project One (see Schedule 1 of the SoCG submitted on 10 September 2015) and where necessary by way of private commercial agreements between the parties. However, in order to give stakeholders, including the MMO, additional comfort on this point, the Applicant submitted Memoranda of Understanding between the Project and Project One (see Schedule 2 of the SoCG submitted on 10 September 2015). These Memoranda of Understanding establish the terms upon which each party shall consult with the other.
- 5.14 The Applicant is hopeful that this information will provide the MMO with sufficient comfort to address this matter.

E.ON Exploration and Production (UK) Limited

- 5.15 E.ON Exploration and Production (UK) Limited (“E.ON”) provided an explanation of how it regarded the potential interaction between its offshore interests, in particular in block 48/3, and the Project.
- 5.16 Productive discussions with E.ON are ongoing in respect of this potential interaction and, as noted between the parties, the preference is to pursue an arrangement outside of the DCO process. The Applicant will provide a further update on this matter at Deadline IV.

6.	Socioeconomics
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Likely Employment Scenarios

- 6.1 The Ex. A invited the Applicant to provide an update on the most likely local employment scenario outcomes for the construction and operational stages of the Project.
- 6.2 The Applicant explained that, as outlined in response to Question SE1 in the Applicant’s response to Deadline I, the assessment underpinning Volume 3, Chapter 11: Socio-economics of the ES (Doc ref No. 7.3.11) draws upon a scenario based analysis for both the construction and Operation and Maintenance (O&M) phases.
- 6.3 The Applicant explained that the scenario based assessment has been developed to reflect various sources of uncertainty in the analysis. It seeks to illustrate the potential range of impacts which might be captured.
- 6.4 The Applicant explained that for both the construction and O&M phases, the main aspects of uncertainty which affect the socio-economic assessment are related to:
- Supplier location – the location of main tier one and two suppliers and their associated supply chains and the extent to which this influences the retention of supply chain expenditure in the impact areas;
 - Port selection and functions – the likelihood of ports in the impact areas being selected as construction and O&M bases and the functions they might serve (as discussed above); and

- Supply chain and labour market adjustment – the potential for range and expertise of suppliers and workers to be increased or enhanced prior to the construction or operation of the Project.
- 6.5 These three sources of uncertainty are interlinked and influenced by a range of factors. The first two sources of uncertainty influence the scale of opportunity that the development presents in the local impact area. The third reflects the ability of supply chain companies and local people to access those opportunities.
- 6.6 The Applicant will not be able provide clarity on the first two sources of uncertainty until after the Project has consent and the design and procurement process is complete. The third factor is more dynamic and there are reasons to suggest that some supply-side adjustment could be taking place and that this could give rise to a greater level of impact in the local impact area.

Supply Chain

- 6.7 The Applicant explained that the environment (in terms of demand signals) is conducive to adjustment of supply chain capacity. For example, consent of developments such as Hornsea Project One sends a strong signal to potential suppliers about the scale of opportunity that might be coming forward.
- 6.8 The Applicant notes major investments on the supply side (including Siemens investment at Alexandra Dock). The impact of this on levels of wider investment in the area is yet to be seen, but there is scope for this level of investment to catalyse wider changes on the supply side.
- 6.9 There have already been various public sector led investments in programmes aimed at increasing supply chain capacity and capability (e.g., those funded by the Regional Growth Fund).

Labour Market

- 6.10 The Applicant explained that, with regards to the supply chain sourcing, the environment is conducive to adjustments in labour market development programmes taking place.
- 6.11 There are already signs of a range of adjustments in skills provision being led by the private and public sectors, including
- Strategic collaboration with Humber UTC to help guide curriculum and ensure relevant provision is in place;
 - Green Port Hull employment and skills interventions; and
 - Other proactive approaches (such as Smart Futures run by HETA) to highlight and promote potential opportunities (presentations etc.).

Conclusion

- 6.12 The Applicant noted that these developments in respect of supply chain adjustment are all positive and they suggest that local companies and workers could be well placed to respond to opportunities that arise through the construction and operation of the Project. However, considerable uncertainty about factors which drive the level of opportunity in the local impact area (i.e., port location and function and location of upper tier suppliers) remains.
- 6.13 The Applicant explained that the low impact scenarios present the worst case scenario in which local ports are not used for construction or operation. If local bases are not used in construction and O&M, the level of opportunity in the local impact will be substantially reduced. This means likely employment impacts in the local impact area could be modest. While the developments on the supply side are positive, they do not provide sufficient justification to dismiss the low impact scenario.
- 6.14 In light of this uncertainty about the level of opportunity the Applicant has to assume, in spite of the positive developments on the supply side, that the low, medium and high impact scenarios have a broadly similar probability of occurring. It is noted that the socio-economic assessment is carried out in line with the assessment principles applied throughout the ES i.e., to include a worst case scenario within the assessment.
- 6.15 The Applicant notes the queries raised by the Ex. A in respect of this conclusion and will revisit the assessment and the sources of uncertainty and provide further comment at Deadline IV.

Employment and Skills Plan

- 6.16 The Ex. A invited the Applicant to provide an update on measures to deliver the Employment and Skills Plan.
- 6.17 The Applicant explained that, as per its response to Question SE2 in the response to Deadline I, Requirement 18 of the draft DCO outlines the possible elements of an Employment and Skills Plan. This will be submitted and approved by North Lincolnshire Council in consultation with the Humber LEP prior to the commencement of any works.
- 6.18 The Applicant is able to confirm that:
- There is an agreement in principle with Humber LEP to work in a coordinated way;
 - NLC and the LEP will continue to be involved in the Employment and Skills Plan when the uncertainty is removed and the scope of benefits becomes more clear;
 - The Applicant has consulted local organisations with an employment and skills remit (including NLC, Humber LEP, HETA and Humber UTC);
 - The Applicant already has working relationships with many of these organisations following initial activities around awareness raising, careers information and wider events; and
 - These organisations are supportive of the approach taken to date and recognise the uncertainty over many aspects of the project which limit the scope to be more detailed.
- 6.19 The Applicant understands that key local stakeholders (the Humber LEP and NLC) are supportive of this approach and the flexibility it provides.

Local Employment

- 6.20 The Applicant explained that it was difficult to be specific at this stage about the number of jobs that could be taken up by residents of the Local Impact Area, not least because the absolute scale of job opportunities that could be available to local people is currently unclear.
- 6.21 The scale of opportunity depends upon the outcome in respect of port location and function and the location of key upper tier suppliers. These factors will influence the amount of construction and O&M activity that take place in the local impact area.
- 6.22 For any construction or O&M activities which do take place in the local impact area, the scale of employment opportunities which are available to local people will depend upon:
- The extent to which local companies are involved in the supply chain (supporting existing local workforce or creating new positions which can be filled by local people); and
 - The extent to which any suppliers from outside of the local area draw upon the local labour force.
- 6.23 The Applicant recognises the importance of securing local employment impacts, but it is important to note that it is particularly difficult to predict what proportion of employment supported in the local impact area could be taken up by local people.
- 6.24 The assessment considers various factors:
- Local economic context (including the nature of the business base and particular sector specialisms);
 - Skills that already exist in the employed workforce;
 - The level of capacity and relevant skills within the unemployed workforce
 - Evidence of specific skills gaps (which exist or are expected); and
 - Activities by public and private sector organisations to develop appropriate labour market capacity.
- 6.25 It is difficult to provide a quantitative assessment of the potential local employment outcomes associated with the Project, however, the Applicant will consider further the suggestions made by the Ex. A and provide further details about possible local employment outcomes at Deadline IV.

Supply Chain Monitoring

- 6.26 The Ex. A invited the Applicant to explain the provisions it has made for monitoring supply chain employment and take-up.
- 6.27 There are potential benefits associated with provisions to monitor the scale and nature of local economic impacts:
- Improve the evidence base on the scale and nature of socio-economic impacts that schemes such as Hornsea Project Two can generate;
 - This, of itself, can be helpful in promoting potential benefits locally and encouraging investment; and
 - It can help to develop understanding of whether particular measures are beneficial.
- 6.28 The Applicant is proposing to develop appropriate provisions as part of the preparation of the Employment and Skills Plan and this could include:
- Monitoring the scale and nature of activities that are undertaken in the local impact area (in the construction and O&M phase); and
 - Working with major suppliers to monitor the involvement of local suppliers and residents.
- 6.29 The Applicant believes it is too early to be specific on what this will entail, but it recognises the value of building these matters into the planning and procurement process.
- 6.30 The Applicant will provide further information at Deadline IV.

DONG Energy Indicative Project Examples

- 6.31 The Applicant thought it would be useful to provide the Ex. A with a DONG Energy project-specific examples of supply chain and employment engagement:
- Several wind turbine manufacturers have developed plans for UK integrated manufacturing and installation facilities:
 - The blades for the 32 Burbo Bank Extension wind turbines (and half of those for Walney Extension) will be sourced from the MHI Vestas facility on the Isle of Wight.
 - Siemens and ABP have committed to a new facility in Hull, which will supply some content for Walney and Race Bank;
 - DONG Energy has supported a joint venture of EEW and Bladt (60/40) in the acquisition of TAG Energy Solutions, which is based in Middlesbrough, resulting in 150 jobs saved and up to 350 jobs in total in 2016 with total production up and running. A minimum of 16 of the total 32 transition pieces for the Burbo Extension project will be manufactured in the new upgraded UK facility Offshore Structures Limited - former TAG Energy Solutions;
 - High share of UK content on onshore substations:
 - Design of five offshore substations in the UK by Atkins and DONG Energy's Engineering department;
 - Jones' Brothers were a firm contracted in the locality of the Burbo Extension onshore cable and substation (North Wales) to undertake enabling works the Burbo Extension substation site (contract worth approximately £1million);
 - Balfour Beatty (UK firm) were awarded the onshore contract for Burbo Extension in January 2015;
 - Balfour Beatty appointed Brenig Construction Ltd (Conwy, Wales) as key contractor (local to the onshore construction area) in onshore substation works (contract worth approximately £4million);
 - DONG Energy currently have 9 sites in the UK and employ over 600 people and this is expected to rise to over 1000 in 2020;
 - 90% of the staff at the recently opened Westermost Rough O&M base are from Grimsby;
 - The Humber has a vital role in meeting the needs of the country and is a major contributor to the national economy, with potential for further development:
 - DONG Energy currently have three developments in the Humber Region (Westermost Rough, Hornsea and Race Bank), with a combined generating capacity of approximately 2GW;

- DONG Energy's commitment to the area was further signalled by the opening of the Grimsby O&M Facility in December 2014.
- 6.32 DONG Energy believes these developments will contribute towards the Humber region becoming a global hub for renewable energy.

Community Benefit

- 6.33 The Applicant would like to highlight that DONG Energy has a history of considering Community Benefit Funds for particular projects, however, the details such as qualifying criteria and funding amounts are yet to be finalised in relation to the potential provision of a Community Benefit Fund. The Applicant does not consider the provision of such a fund is necessary to support the Application as it would not be offered to address a specific impact. As such, the Applicant does not consider it to be relevant to the decision making process.

7.	Landscape and Heritage
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- 7.1 The Ex. A noted that there were some unresolved issues between the Applicant and the planning authorities. These related to the completion of surveys and to the setting of Manor Farm Moated Site.

Non-designated Archaeological Assets

- 7.2 The Applicant noted that, with respect to non-designated assets, the archaeological fieldwork is intended to establish the probability/likelihood of encountering archaeological remains. As set out in its response to Deadline II, the Applicant considers that the trial trenching undertaken to date, combined with the various non-intrusive surveys (described below), has sufficiently characterised the archaeology of the proposed onshore cable route and is adequate to fully assess the impact of the proposed development on heritage interests and to outline appropriate mitigation. This mitigation will be secured in a Written Scheme of Investigation (WSI) which will be submitted to and approved by the local planning authority prior to the commencement of the Project (pursuant to Requirement 6 of the draft DCO). The WSI (informed by the trial trenches carried out to date) will identify areas where field work and/or a watching brief are required, and the measures to be taken to protect, record or preserve any significant archaeological remains that may be found.
- 7.3 In addition, the Applicant understands that recent archaeological survey work done in connection with the A160 improvements and Hornsea Project One is consistent with the characterisation of the area contained in the Project's EIA.
- 7.4 The Ex. A requested the Applicant to provide a plan and schedule update to show the coverage of trial trenching to date. The Applicant intends to provide further information at Deadline IV.

The Setting of Manor Farm Moated Site

- 7.5 The Applicant's position on this matter is that the baseline (described in Volume 6, Annex 6.6.8: Designated Assets Baseline of the ES (Doc ref No 7.3.6)) and the assessment (presented at paragraphs 6.6.145 to 6.6.156 in Volume 3, Chapter 6 of the ES), is robust. The overall effect of the Project on Manor Farm moated site is assessed to be non-significant.
- 7.6 Historic England guidance in Historic Environment Good Practice in Planning Note 3: The Setting of Heritage Assets, Historic England (July 2015) notes that:
"The NPPF makes it clear that the setting of a heritage asset is the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to

the significance of an asset, may affect the ability to appreciate that significance or may be neutral (NPPF glossary)”.

- 7.7 The Applicant has considered the significance of the asset at Thornton Abbey, its setting and how and to what degree setting makes a contribution to the significance of the asset. It is the Applicant's position that existing industrial development around the location of the proposed HVDC converter/HVAC substation considerably influences the setting of Thornton Abbey, does not add to its significance and that the significance of this asset would not be altered by the Project. The Applicant notes that the two photomontages within Volume 3, Chapter 6 of the ES, show the existing and proposed positions. It is the Applicant's view that the proposed converter/substation station would be seen as part of the industrial landscape of the wider area.
- 7.8 Further, the Applicant notes that the Manor Farm moated site at East Halton (National Heritage List Entry Number 1007816) is located approximately 1 km northwest of the proposed onshore HVDC converter/HVAC substation site. A Photomontage (Volume 3, Chapter 6 of the ES, Figure 6.11) shows the existing setting and the same view with the proposed HVDC converter stations. It can be observed that, although the proposed onshore HVDC converter/HVAC substation site would be visible from this location, it would be seen against the background of existing industrial development and the setting of this asset would not be significantly altered with the addition of the Project. It can also be seen that offsite planting would not provide any significant screening. The wider landscape is shown on the first edition Ordnance Survey (OS) map of 1887 (see Volume 6, Annex 6.1.4: Landmark Envirocheck HVDC Converter/HVAC Substation of the ES (Doc ref No 7.6.1.4), which shows the late 19th century disposition. Subsequent editions of the OS map contained within the same annex shows the landscape evolving, with the gradual removal of hedgerows and the establishment of an industrial landscape in the vicinity of the proposed HVDC converter/HVAC substation. The current position is that the wider landscape primarily represents the remains of the enclosures. The ES (Volume 3, Chapter 6 of the ES) has assessed the effect of the onshore HVDC converter station (which represents the worst case) on the Scheduled Monument and that this effect is not significant. On this basis the Applicant does not consider it necessary or appropriate to undertake offsite planting.
- 7.9 Clarification has been provided by the Applicant through the Photomontages submitted at Appendix I of the response to Deadline IIA which provide further details on the cumulative effects with Project One. The assessment, presented in Volume 3, Chapter 6 of the ES, concludes that the impact on designated assets is not significant. No comments have yet been received from the local planning authorities on the updated photomontages.

Hedgerows

- 7.10 The Ex. A queried which Hedgerows would be removed and how this would be decided. The Applicant highlighted that the details of any hedgerows that will require to be removed will be set out in the Landscape Scheme and Management Plan (LSMP) (see Outline LSMP (Doc ref No 12.9)), required to be submitted to and approved by the local planning authority under Requirement 9 of the draft DCO. Furthermore Paragraph 4.1.3 of the Outline LSMP states that the hedgerow survey in Volume 6, Annex 6.3.3 of the ES:
- “surveyed a sample of hedgerows along the cable route and at the onshore HVDC converter/HVAC substation site. Those hedgerows surveyed are set out at Table 4.1 below and shown on Figure 1 (sheets 1 to 11) together with the mitigation and enhancement measures. Before construction the additional affected hedgerows will be surveyed and a similar mitigation and enhancement plan developed for those, as yet, un-surveyed hedgerows. There are a total of 74 hedgerows crossed by the cable route.”*
- 7.11 The Applicant therefore submits that there is an appropriate mechanism in place under the draft DCO to ensure that any hedgerows affected by the construction will be surveyed and identified on a plan and will be the subject of a mitigation and enhancement plan.

Furthermore, the hedgerows affected may change between now and construction and therefore the approach currently adopted in the DCO is sufficient and proportionate.

- 7.12 The LPA's noted that they had no concerns in relation to the mechanisms secured within the draft DCO on this point.

8.	Fisheries
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Monitoring Programme

- 8.1 The Ex. A requested an update on the current status of discussions with the National Federation of Fishermen's Organisations ("NFFO"), VisNed and the Holderness Fishing Industry Group ("HFIG") with regard to the need for a monitoring programme.
- 8.2 The Applicant notes, as detailed within Section 6.6 of Volume 2, Chapter 6: Commercial Fisheries of the ES (Doc ref No 7.2.6), that the Applicant has committed to the following future monitoring with respect to commercial fisheries:
- Construction phase: Any construction related debris material will be removed, where possible, to minimise snagging risk. As set out within Condition 8(5)-(8) of the draft DMLs, the Applicant will maintain an audit sheet covering all aspects of the construction including equipment, components and materials. The audit sheet will be maintained throughout the construction and the MMO will be notified of any changes on a fortnightly basis. In the event that the MMO becomes aware that any of the materials on the audit sheet cannot be accounted for it shall require the undertaker to carry out a side scan sonar survey to plot all obstructions across the Wind Farm Area where construction works and related activities have been carried out under this licence. Local fishermen shall be invited to send a representative to be present during the survey. Any new obstructions that the MMO believes to be associated with the authorised scheme shall be removed at the undertaker's expense, where practicable.
 - Post construction: As per Condition 17(2)(d) of the draft DMLs one high resolution bathymetric survey of a representative sample area, as may be agreed in writing with the MMO, of the part(s) of the offshore Order limits with a water depth no greater than 12 metres (referenced to Chart Datum) within which construction works and disposal activities were carried out under this licence following the first major storm event the timing of which shall be agreed with the MMO in consultation with Natural England and the Environment Agency.
- 8.3 The Applicant has also proposed targeted monitoring of herring spawning habitats along the export cable route which may be affected by sand wave clearance activities (Volume 2, Chapter 3 of the ES, paragraph 3.6.168). The purpose of these surveys will be to assess recovery of seabed habitats for herring spawning and has been proposed to target a specific uncertainty within the assessment (i.e., the quality of seabed sediments along the export cable route for herring spawning and recovery of these sediments following seabed clearance), pursuant to Condition 15(2)(d) of draft DMLs A2 and B2 for pre-construction and Condition 17(2)(d) of draft DMLs A2 and B2 for post-construction monitoring.
- 8.4 No further fish and shellfish monitoring is proposed as the impact assessment predicted no moderate or major significant effects on fish and shellfish populations. Any monitoring would therefore be designed to detect effects which were, at worst, of minor significance, if these were detectable at all. Further, previous fish and shellfish monitoring at other UK offshore wind farms has not, to date, recorded any significant impacts as a result of wind farm construction or operation. This supports the conclusions made within the ES, with no significant effects predicted and these predictions were made with a low level of uncertainty.
- 8.5 The approach taken for the Project is in line with recent MMO recommendations which state that:
- "Generic fish monitoring conditions as previously seen in licences should be removed and replaced with targeted monitoring of significant impacts and or uncertainties as suggested by*

the EIA” (Review of post-consent offshore wind farm monitoring data associated with licence conditions. A report produced for the Marine Management Organisation, page 194, MMO 2014).

Post-installation trawl survey

- 8.6 As part of good practice, pre and post-construction monitoring of the seabed within the Project is proposed, as detailed within paragraph 8.2 of this note and secured within Conditions 15 and 17 of the draft DMLs. This is likely to comprise swath bathymetry and side scan sonar surveys.
- 8.7 It is noted that industry standard sonar has a typical resolution of 200mm and as such is expected to be able to determine the presence of any project related construction debris. Any such debris detected will be removed where necessary and/or possible with the aim of minimising the likelihood of gear snagging.
- 8.8 There remains disagreement between the Applicant and NFFO, VisNed and HFIG with regard to the need for a post installation trawl survey to verify a lack of significant snagging hazards. The Applicants positions remains that proposed survey methods are appropriate and non-intrusive. In addition it is noted that swath bathymetry surveys cover a wider area compared to the discrete area of seabed that would be covered by a trawl survey and are therefore the most effective while having the least environmental consequence.
- 8.9 Pre and post-construction monitoring as secured by Conditions 15 and 17 of the draft DMLs provides that the specific requirements for seabed monitoring will be developed and agreed with the MMO. In addition Condition 8(5)-(8) of the draft DMLs commit to the removal of any construction related debris within 28 days, where practicable, and the maintenance of an audit sheet covering all aspects of the construction including equipment, components and materials.

Fisheries Liaison and Co-existence Plan

- 8.10 The Applicant will maintain ongoing communication with relevant sectors of the fishing industry during the pre-construction, construction, operational and decommissioning phases of the Project and will, where relevant, maintain on-going communication between the Applicant and all relevant sectors of the fishing industry where possible.
- 8.11 A Fisheries Liaison Officer (FLO), with appropriate experience of the local fishing industry, will be appointed at the start of the pre-construction phase, in accordance with Condition 10(2)(c)(vii) of draft DMLs A1 and B1 and Condition 10(2)(c)(viii) of draft DMLs A2 and B2, to act to ensure the appropriate liaison with the commercial fisheries industry.
- 8.12 If consent is granted, the FLO will develop a Fisheries Liaison Plan to ensure that relevant fishing fleets are notified of planned and ongoing works throughout the pre-construction, construction, operational and decommissioning phases of the project.
- 8.13 This Fisheries Liaison Plan will be developed in consultation with the relevant fisheries stakeholders and in accordance with the Fisheries Liaison with Offshore Wind and Wet Renewables Group (FLOWW) “*Recommendations for Fisheries Liaison - Best Practice guidance for offshore renewables developers*” (FLOWW, 2014), wherever possible.
- 8.14 The Fisheries Liaison Plan will include a coexistence plan which will be established between the Applicant and the fishing industry which will address potential issues that may arise during pre-construction, construction, operational and decommissioning activities with the aim of minimising impacts, as far as practicable.
- 8.15 It is expected that the coexistence plan will set out principles for finding common ground for co-existence, setting out positions of the Applicant and commercial fishers. It will be established in close consultation with the commercial fishing industry.
- 8.16 There remains disagreement between the Applicant and NFFO, VisNed and HFIG with regard to the need for the Fishing Liaison and Coexistence Plan to be secured within the marine

licenses/DMLs. The Applicant does not consider a specific licence condition is required for a fisheries liaison and coexistence plan, given that Condition 10(2)(c)(vii) of the draft DMLs A1 and B1 and Condition 10(2)(c)(viii) of DMLs A2 and B2, require the Project Environmental Management and Monitoring Plan to include details of the appointment and responsibilities of a FLO.

- 8.17 The Applicant noted that the MMO confirmed that they would consult with the NFFO for all commercial fisheries matters within the PEMMP. The MMO therefore consider that the NFFO would be able to comment on the roles and responsibilities of the FLO specified within the PEMMP.

FLOWW Guidance (2014) on Disturbance Payments

- 8.18 This section relates to the Applicant's response to the ISH Hearing Agenda item 7.3. This Agenda item was not raised for verbal discussion at the Hearing, but an answer has been provided to ensure clarity and completeness.
- 8.19 There remains disagreement between the Applicant and NFFO, Visned and HFIG with regard to disturbance to ongoing fishing activities in areas where construction or surveys are incompatible with ongoing fishing activity.
- 8.20 With respect to offshore surveys required before, during and after construction, the Applicant would continue the approach taken throughout the pre-application phase. Surveys will be undertaken in accordance with FLOWW guidance (2014) where possible, including the utilisation of a Fisheries Liaison Officer to assist with the planning, scheduling, communication and use of offshore FLO (where appropriate). These measures will minimise the impact on commercial fisheries to the extent that no disturbance payments would be required. With respect to any disturbance payment during construction, the Applicant will follow standard procedures as outlined in the FLOWW guidance (2014), wherever possible.
- 8.21 The Applicant's position with regard to any compensation (based on factually accurate and justifiable claims) align with the industry standard guidelines and principally those set out in the Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW) Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison, January 2014.
- 8.22 The Applicant would also like to highlight the provisions in the draft DMLs (specifically Condition 7(8)) relating to the timely and efficient issuing of notices to mariners and other navigational warnings of the position and nature of the works, such information to be provided to mariners in the fishing industry. The Notices to Mariners will be updated and reissued not less frequently than weekly and supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme (pursuant to Condition 7(9) of the draft DMLs).

Bridlington Potters

- 8.23 The Ex. A requested clarification from the Applicant as to whether it was aware of any concerns with the impact of the Project on the Bridlington fishing fleet.
- 8.24 The impact assessment as detailed within Section 6.6 of Volume 2, Chapter 6: Commercial Fisheries of the ES assesses the impact of inter-array cabling between turbines and platform inter-connector cables within Subzone 2 and the offshore export cable on commercial fisheries including potters.
- 8.25 The significance of all impacts on commercial fisheries throughout all stages of the development has been found to be minor or negligible and therefore not significant in EIA terms. This is largely due to the relatively low levels of fishing that occur across Project Two. There is very little overlap identified with the grounds targeted by Bridlington potters (whose interests are represented by the HFIG).

- 8.26 Of the 70 vessels within the HFIG, five or six have a larger operational range and can target waters outside 12 NM. Three vessels have VMS and are therefore represented within VMS figures, while all sizes of potting vessels are recorded within surveillance data.
- 8.27 The offshore cable route corridor is at the southern extreme of where HFIG members, including Bridlington vessels, normally operate, but six vessels are known to extend effort across this area (four vessels from Bridlington and two from Grimsby).
- 8.28 Consultation with HFIG members indicated that for these six vessels approximately 25% of their pots may be deployed across the export cable, with the majority of the remainder located north of the export cable, and a small proportion south of the export cable. This is supported by VMS and surveillance data, as indicated in Figures 6.5 and 6.10 within the baseline assessment of Section 6.5 of Volume 2, Chapter 6: Commercial Fisheries of the ES.

Cumulative Impact Assessment

- 8.29 The cumulative impact assessment for commercial fisheries is detailed within Section 6.7 of Volume 2, Chapter 6: Commercial Fisheries of the ES (PINS reference 7.2.6) from page 55 onwards.
- 8.30 The Applicant can confirm (as stated at paragraph 3.4.4 of the SoCG with the MMO) that the cumulative impact assessment has adequately assessed the potential worst case effects of the Project (at a cumulative level) with respect to matters relating to commercial fisheries.
- 8.31 The Applicant can confirm that the MCA and Natural England have not raised concerns with respect to the scope of the cumulative impact assessment for commercial fisheries.
- 8.32 With regard to the active dredge disposal sites noted by the MMO (including Babbage (HU203), and Bridlington (HU015), as well as numerous sites within the Humber Estuary); Volume 4, Annex 4.5.1 Cumulative Effects Screening Matrix (Doc Ref: 7.4.5.1) of the ES provides the justification for not including these sites. Due to these sites being operational at the time that the baseline characterisation was undertaken, these were considered to be *“included as part of the topic baseline and hence not considered within the cumulative impact assessment”*.
- 8.33 The Triton Knoll (HU204), Westermost Rough (HU207) disposal sites coincide with the wind farm sites associated with these disposal sites. These projects have been included in the commercial fisheries cumulative impact assessment (see Table 6.16 of Volume 2, Chapter 6 of the ES).
- 8.34 The Applicant can confirm that no industry stakeholders have raised active dredge disposal sites as a concern for overall cumulative impacts on commercial fishing.
- 8.35 In relation to the cumulative assessment of offshore wind farms, Westermost Rough has the most potential to result in a cumulative impact for the UK potting fleet, while all other wind farms are expected to have a negligible to low magnitude of impact to this fleet.
- 8.36 Westermost Rough is located within highly significant lobster and crab grounds and is expected to constitute a major impact to the HCFIG lobster and crab fleet. However, the area across Subzone 2 tends not to be targeted by the same vessels that operate within the inshore waters that overlap Westermost Rough. These vessels are smaller in size and normally target waters within 12 nautical miles. The construction of Westermost Rough will displace potting vessels, but they are unlikely to be displaced as far offshore as Subzone 2 or as far south as the Project Two export cable route corridor. The cumulative impact concluded a low magnitude of impact, but a medium sensitivity for the potting fleet, on account of their operating range, resulting in a minor adverse significance.
- 8.37 In conclusion, for the Tier 1 assessment (which includes Westermost Rough and other wind farms, except East Anglia Three) the cumulative effect of reduction in access to or exclusion from potential and/or established fishing grounds for all Commercial Fishing fleets was found to be of minor adverse significance, which is not significant.