

Hornsea Project One Deadline 1 Submission



1 INTRODUCTION

1.1 This document is submitted for Deadline 1 in relation to the Hornsea Project Two Examination, jointly on behalf of Heron Wind Limited ("Heron"), Njord Wind Limited ("Njord") and Vi Aura Limited ("Vi Aura"). The three companies are collectively referred to as the "Project One Companies". The undertakers in relation to the Project Two Order (Optimus Wind Limited and Breesea Limited) are referred to in this Representation as the Applicants or the Project Two Companies.

1.2 This document is structured as follows:

Written Representation

Section 2 sets out the status of the Project One Companies;

Section 3 provides background to DONG Energy Wind Power A/S to put Project One in the context of DONG Energy's UK portfolio of offshore wind farm projects;

Section 4 explains Project One's status and development timetable, and draws a high level contrast with Project Two in those terms;

Section 5 provides background information concerning existing legal agreements between Project One and Project Two;

Section 6 provides background information concerning the status of Project One in relation to The Crown Estate as landlord of the seabed;

Section 7 explains Project One's perspective on the legal mechanisms available to resolve issues between Project One and Project Two;

Sections 8 to 13 address the issues raised in the Project One Companies' Relevant Representation (Appendix 1) in more detail;

Replies to First Questions

Section 14 provides the Project One Companies' responses to the First Questions directed at them, together with responses to other Questions where they considered a response was appropriate;

Comments on Relevant Representations

Section 15 provides the Project One Companies' responses to points arising from the Relevant Representations of the Environment Agency (RR-25);

List of Appendices

A list of the appendices to accompany this Deadline 1 submission is at the end of this document.

1.3 There are ongoing constructive discussions with the Applicants to progress and agree solutions to the issues identified in sections 8 to 13, including negotiations on two confidential cooperation agreements (one offshore, one onshore) and specific Protective Provisions for inclusion in the Development Consent Order on an agreed basis. It is hoped that it will be possible to withdraw the various Representations in due course as part of a comprehensive package agreed between the two sets of project companies. The parties are aiming to have resolved these matters by Deadline 2.

Hearings and Site Visit

- 1.4 The Project One Companies have responded separately on the question of attendance and speaking at hearings and in relation to the site visit.

2 STATUS OF THE PROJECT ONE COMPANIES

- 2.1 Heron, Njord and Vi Aura are the three named undertakers under the Hornsea One Offshore Wind Farm Order 2014 (the "Project One Order") (Appendix 2). The project consented under this Order is referred to as "Project One".
- 2.2 Each of the Project One Companies holds a generation licence under section 6 Electricity Act 1989 and is a statutory undertaker (Appendix 3).
- 2.3 Heron holds all of the onshore land interests in relation to Project One. There are 282 plots (out of 522) in the Project Two Order where rights (temporary and permanent) are sought by Project Two over land within the Project One Order Limits. Accordingly, Heron is an affected party as well as an interested party.
- 2.4 This representation also constitutes a representation for the purposes of section 127 Planning Act 2008 on behalf of Heron.
- 2.5 This submission also engages section 138 Planning Act 2008 in relation to Heron, given the rights vested in or belonging to Heron in relation to its undertaking as a statutory undertaker. These rights take the form of agreements with landowners and lessees, or rights conferred under the Project One Order for the construction and maintenance of apparatus forming part of Project One.

3 BACKGROUND

- 3.1 Heron and Njord are owned 100% by DONG Energy Wind Power A/S ("DONG Energy"). Vi Aura is owned 100% by Heron.
- 3.2 DONG Energy was a minority shareholder in Heron and Njord until February 2015 when it took full ownership of Project One. SMart Wind Limited acted as agent for the Project One application but from February 2015, no longer has any involvement with Project One. DONG Energy has no legal interest in Project Two. Accordingly, the two projects are entirely at arm's length and are being promoted separately.
- 3.3 DONG Energy is the market leader in offshore wind power and the United Kingdom is one of its main markets. DONG Energy operates and is a full or part owner of five established operational offshore wind farms in the UK: Barrow, Burbo Bank, Walney 1 & 2, Gunfleet Sands and London Array (the world's largest offshore wind farm), and is a part owner in the Lincs Offshore Wind Farm which is operated by Centrica.
- 3.4 DONG Energy also operates and owns with partners the 389MW West of Duddon Sands offshore wind farm in the Irish Sea, inaugurated in October 2014, and the 210MW Westernmost Rough offshore wind farm off the East of England, inaugurated in July 2015. DONG Energy's 258MW Burbo Bank Extension in the Irish Sea and 580MW Race Bank offshore wind farm off the East of England are under construction and are expected to be operational in 2017 and 2018, and the 660MW Walney Extension, is in advanced development having been awarded a Contract for Difference.

4 STATUS AND DEVELOPMENT TIMETABLE FOR PROJECT ONE

- 4.1 The Project One Order came into force on 31 December 2014. The Project One Companies applied for a correction order which came into force on 1 May 2015¹ (Appendix 4). At the Project Two Preliminary Meeting the Examining Authority requested that a proportionate approach was taken to submitting documents from other Nationally Significant Infrastructure Projects (NSIPs) applications and Examinations into the Project Two Examination, whilst taking into account that the Examining Authority cannot consider documents which are not formally submitted into this Examination.
- 4.2 Bearing that in mind, the following Project One documents are included as appendices to this submission:
- (a) The Project One Order;
 - (b) The Project One Correction Order;
 - (c) The Explanatory Memorandum submitted with the draft Project One Order;
 - (d) The three generation licences for Heron, Njord and Vi Aura;
 - (e) The approved Land Plans;
 - (f) The approved Works Plans;
 - (g) The Final version of the Project One Book of Reference.
- 4.3 As already noted, the Project One Order was granted in December 2014. Project One has also been awarded a Contract for Difference by the Department for Energy and Climate Change under the Final Investment Decision Enabling for Renewables Process. The Contract for Difference enables the financial support mechanism that will facilitate Project One to be constructed. The Contract includes certain milestones and commits the project to a specific development programme. Project One is fully committed to meeting that programme and multiple workstreams are being taken forward ranging from detailed project optimisation, onshore and offshore procurement, through to preparation for the discharge of detailed requirements under the Project One Order and conditions under the deemed Marine Licences.
- 4.4 The Contract for Difference was awarded through a competitive process, with a significant number of unsuccessful applicants. A Government statement which outlines this process has been included at Appendix 5. The Contracts for Difference (or Investment Contracts) for all eight successful projects are publicly available. The statement to Parliament by the Secretary of State for Energy made when the Project One Contract was laid before Parliament is also reproduced at Appendix 5.
- 4.5 The Project One Companies consider that it is important that the Examining Authority has an outline understanding of the large number and range of workstreams involved in bringing forward a complex project like Project One to its Financial Investment Decision and then into construction and commissioning.
- 4.6 The remainder of this section seeks to provide this. The key point is that as Project One proceeds through these various workstreams it is fundamental that any interface with an emerging project opportunity like Project Two is resolved in Project One's favour in a satisfactory manner. Project One cannot accept uncertainty on this matters for any significant period of time, nor should it have to, given that it has secured its Development Consent Order and, crucially, a Contract for Difference.

¹ The Hornsea One Offshore Wind Farm (Correction) Order 2015.

- 4.7 By contrast, Project Two is still at an early stage and is running to a significantly later timetable. Importantly, it does not have a Contract for Difference. It will have to bid in a future Contract for Difference round against other offshore wind projects and other types of electricity generating projects. There is no guarantee that it will secure a Contract for Difference.
- 4.8 The Contract for Difference for Project One sets a Milestone Delivery Date of 31 March 2016. By this date, Project One will need to demonstrate to The Low Carbon Contract Company (LCCC), the Contract for Difference counterparty body, that either (i) 10% of the project pre-commissioning costs have been spent (approx. £246m) or (ii) that major supply contracts have been entered into. If this milestone is not met, then the LCCC has the right to terminate the contract.
- 4.9 Project One is well progressed in achieving its Contract for Difference milestones and deliverables. There are currently circa 100 people working on Project One advancing the design and procurement of the key project components. In parallel with this work are the ongoing discussions with regulators and stakeholders to discharge the requirements of the consents. In July 2015 the preferred supplier was appointed securing the supply and commissioning of wind turbines to Project One, and subject to Final Investment Decision it is intended that the wind farm will be producing electricity by 2020.
- 4.10 Onshore construction will commence in early 2016 with offshore construction commencing in 2018. A Final Investment Decision is targeted for 2016. The capital investment for Project One is estimated to be in excess of £3 - 4 billion which DONG Energy may seek to fund through the establishment of investor partnerships with a range of different investors requiring necessary due diligence.
- 4.11 In order to meet the March 2016 milestone in the Contract for Difference, Project One has significantly progressed its construction programme. Activities carried out or underway include:
- (a) A detailed geotechnical survey carried out between October 2014 and April 2015. The results of this survey will provide DONG Energy with detailed information about ground conditions at each proposed wind turbine position thereby informing the selection of viable foundation locations and a feasible installation strategy. This survey was a considerable investment for the project with an estimated contract value of £13 million – data collection is complete and the data is currently being analysed.
 - (b) Agreement of a Planning Performance Agreement (PPA) with North Lincolnshire, North East Lincolnshire, West Lindsey and East Lindsey District Councils. Several meetings have been held to date to discuss the onshore installation programme, which is currently scheduled to commence in early 2016.
 - (c) Detailed design work for the onshore substation is considerably advanced with designs to inform the installation procurement process anticipated to be completed within the next four weeks. Once the design process is complete, DONG Energy will be conducting a procurement exercise to commission a construction contractor and commence work to prepare for construction.
 - (d) An employment and skills plan is being developed with the Local Enterprise Partnership and North Lincolnshire District Council. This will aim to highlight employment and supply chain opportunities associated with the construction, operation and maintenance of the Project. In addition, DONG Energy will be hosting events in the region for the businesses interested in providing supplies and services for the wind farm.
- 4.12 It is the contrast between the two projects outlined in this section which sets the context for the examination of the relationship and interfaces between them. The approaches available to resolving issues between the projects are considered further in section 7.

5 EXISTING LEGAL AGREEMENTS BETWEEN PROJECTS ONE AND TWO

- 5.1 To assist the Examining Authority to understand the commercial context for this Written Representation the contractual background and current position is summarised in this section.
- 5.2 DONG Energy acquired a 33.3% stake in Project One pursuant to a complex agreement in 2011. At that time there were only two project companies, Heron and Njord. As part of the 2011 arrangements it was agreed to allow for the possibility that Project One might be delivered as three NSIPs rather than two. This led to the Project One draft Order being structured to allow for two or three NSIPs each with a separate undertaker. This is explained in the Explanatory Memorandum (Appendix 6).
- 5.3 Vi Aura Limited is the third undertaker under the Project One Order. It is owned 100% by Heron.
- 5.4 The 2011 agreement provided for cooperation between the three shareholders in taking Project One forward.
- 5.5 DONG Energy had an option, which it later exercised, to acquire the remaining shares in Heron and Njord resulting in DONG Energy taking full ownership of Project One (and thereby full control of Vi Aura, given that Vi Aura is 100% owned by Heron). The full effect of this option was conditional on the Project One Order being granted in accordance with certain criteria.
- 5.6 The acquisition of the remaining shares took place in February 2015 after the Project One Order had completed its legal challenge period without a legal challenge being made. Since that time Heron and Njord have been owned 100% by DONG Energy (and Vi Aura remains 100% owned by Heron) and are entirely separate from SMART Wind Limited and the Project Two Companies.
- 5.7 There are three legal agreements in place between relevant companies concerning the relationship between Project One and Project Two going forward, the details of which are commercially confidential.
- 5.8 One agreement relates to the onshore cable route and related matters and was entered into in December 2011.
- 5.9 Two other agreements, dated November 2013 and April 2014, relate principally to the onshore substation for Project One. The latter agreement envisaged the negotiation of a fully comprehensive onshore and offshore cooperation agreement between the two projects by Q4 2014, which would supersede the three agreements just mentioned. This agreement is still under negotiation, and is being taken forward as two confidential agreements – an onshore cooperation agreement and an offshore cooperation agreement.

6 THE CROWN ESTATE

- 6.1 Agreements for Lease are in place with The Crown Estate Commissioners in relation to the entire Project One turbine array areas. These provide for the exercise of an option to take leases over the seabed areas which constitute the consented array area for the Project One Order. They also provide for the grid connection to the shore from each lease area. These agreements are commercially confidential.

7 APPROACH TO RESOLVING ISSUES BETWEEN PROJECTS ONE AND TWO

7.1 Section 9 of the Project Two Order Cable Statement (Document 11.2) deals with "Interfaces between Project One and Project Two". The Cable Statement explains the close proximity, and partial overlap, between the two projects. It correctly states that there are a number of areas and issues, both offshore and onshore, where the interests of the two projects may conflict unless there is agreement between them.

7.2 There are two mechanisms by which conflict between Project One and Project Two can be resolved – by commercial agreement or by means of the final provisions of the Development Consent Order, assuming it is granted.

By Agreement

7.3 The Project One Companies are in active negotiation with the Project Two Companies in relation to the various issues highlighted in the Project One Relevant Representation and amplified in more detail in this Written Representation.

7.4 It is the Project One Companies' preference that these matters be dealt with by way of confidential commercial agreements, as long as it can be reached on satisfactory terms which properly protect the interests of Project One. As already noted it is intended that these be resolved by Deadline 2.

7.5 If binding agreements can be reached before the end of the Examination which resolves all matters between Project One and Project Two, then the Project One Companies will notify the Examining Authority of that fact and submit an agreed Statement of Common Ground. The Statement will outline the areas covered by the agreement and, in accordance with the terms of such agreement, will withdraw, vary or confirm the various Project One representations as part of such agreement. It may also provide for the inclusion of agreed Protective Provisions and Development Consent Order amendments.

By way of the Secretary of State's decision and the terms of any Development Consent Order

7.6 It is imperative to the delivery of Project One that its interests are protected in all eventualities. Given that the Project Two application was submitted without agreement of the confidential cooperation agreements having been reached between Project One and Project Two, Project One was obliged to submit a Relevant Representation highlighting the various areas of potential conflict between the two projects. It has furthermore been necessary for Project One to submit this Written Representation to explain the areas of conflict in more detail, to explain the adverse impact of these issues on Project One unless they are addressed, and to propose solutions which are necessary to protect the interests of Project One.

7.7 It should be noted that Project Two has not included any Protective Provisions in the draft Development Consent Order which seek to protect Project One from Project Two. The Project Two Companies have assumed that a confidential commercial agreement will be reached.

7.8 When considering the changes to the Project Two draft Development Consent Order which Project One requires, the Examining Authority and the Secretary of State are required to apply the test in section 104 Planning Act 2008. In particular, the Secretary of State:

- (a) Must decide the application in accordance with any relevant national policy statement, except to the extent that (among other things) the Secretary of State is satisfied that the adverse impact of the proposed development would outweigh its benefits;

- (b) In deciding the application must have regard to any relevant national policy statement and (among other things) any other matters which she thinks are both important and relevant to the decision.
- 7.9 It is submitted that in this case, where Project Two and the terms of the Development Consent Order sought by the Project Two Companies are adverse to the delivery of Project One that:
- (a) Such adverse effects constitute matters which should be regarded as "important and relevant" the Secretary of State's decision and which must therefore be had with regard to;
 - (b) Such adverse effects would represent an "adverse impact" which is capable of outweighing the benefit of the proposed development i.e. Project Two, such as to justify amending the Development Consent Order;
 - (c) The principles set out in Section 2.6 of National Policy Statement for Renewable Energy Infrastructure (EN-3) should apply when deciding whether Project Two is "in accordance" with the relevant national policy statements (i.e. EN-1, EN-3 and EN-5).
- 7.10 Section 2.6 relates to the impacts of offshore wind farms on oil, gas and other offshore infrastructure and activities. It does not specifically address the interaction between two offshore wind farms, but the principles to be applied in that situation must be the same. In particular:
- (a) Paragraph 2.6.179: the promoter of an offshore wind farm should undertake an assessment of the potential effect of the proposed development on existing or permitted infrastructure or activities.
 - (b) Paragraph 2.6.180: the promoter should engage with interested parties (in this case the Project One Companies) early in the development phase with an aim to resolve as many issues as possible prior to the submission of an application;
 - (c) Paragraph 2.6.181: such engagement should continue throughout the life of the development to ensure that solutions are sought to exist that allow offshore wind farms and other uses of the sea to successfully co-exist.
 - (d) Paragraph 2.6.183: the decision maker should adopt a pragmatic approach where a proposed offshore wind farm potentially affects other offshore infrastructure or activity. The decision maker should expect the applicant to minimise negative impacts and reduce risks to as low as reasonably practicable.
 - (e) Paragraph 2.6.184: the decision maker should be satisfied that the site selection and site design of the proposed offshore wind farm has been made with a view to avoiding or minimising disruption or economic loss or any adverse effect on safety to other offshore industries. The decision maker should not consent applications which pose unacceptable risks to safety after mitigation measures have been considered.
 - (f) Paragraph 2.6.185: where a proposed development is likely to affect the future viability or safety of an existing or approved/licensed offshore infrastructure or activity, the decision maker should give these adverse effects substantial weight in its decision-making.
 - (g) Paragraph 2.6.186: providing proposed schemes have been carefully designed by the applicants and the necessary consultation has been undertaken at an early stage, mitigation measures may be possible to negate or reduce effects on other offshore infrastructure or operations to a level sufficient to allow the decision maker to grant consent.

- (h) Paragraph 2.6.187: detailed discussions between the applicant and relevant consultees should have progressed as far as reasonably possible prior to the submission of an application. As such appropriate mitigation should be included in any application and ideally agreed between relevant parties.

- 7.11 The tests set out in this section are those which must be applied when considering the issues considered below in sections 8 to 13.

Compulsory acquisition and Statutory Undertakers

- 7.12 In addition to the tests under section 104, where powers of compulsory acquisition are sought, the Secretary of State is also obliged to consider the tests for compulsory acquisition, which are set out in the Statement of Reasons and are not repeated here. This is particularly the case where another NSIP has already secured powers of compulsory acquisition as is the case here. Furthermore, where a statutory undertaker is affected by proposed compulsory acquisition, the Secretary of State must consider the "serious detriment" test under section 127 and the test under section 138 that the impact on the statutory undertaker is "necessary".
- 7.13 As already explained, whilst the manner of resolving matters in the absence of agreed cooperation agreements have just been highlighted, the Project One Companies are working towards an outcome where fully testing those issues in the Examination can be avoided and these representations can be withdrawn as part of an agreed package with Project Two.

8 OVERLAP OF ORDER LIMITS - ONSHORE TEMPORARY AND PERMANENT WORKING AREAS AND COMPOUNDS

- 8.1 In sections 8 to 13, the Project One Companies have followed a consistent approach in setting out the relevant part of the Relevant Representation, explaining the issues in more detail, proposing the solution or solutions required and highlighting the risks to Project One if those solutions cannot be achieved.
- 8.2 **Relevant Representation:** "There are a number of locations identified within the Project Two Work Plans where there is a complete overlap and, as a consequence, possession proposed for the usage of temporary working areas. This is particularly clear at the onshore substation site."
- 8.3 "There is an area of proposed permanent acquisition of part of the Project One substation area. This should either be removed, or made subject to Protective Provisions which mean that land/rights can only be acquired with Project One's consent."
- 8.4 **Issue in detail:** The Project Two application seeks a full set of powers of compulsory acquisition and temporary use to deliver Project Two. There is a considerable overlap between the works proposed and the powers sought for Project Two and the land arrangements already in place for Project One. The Project One Order contains a full set of compulsory acquisition powers and temporary use powers to deliver Project One, which underpin, where applicable, the numerous voluntary agreements which have been entered into by Heron with relevant land owners and those holding land interests. These powers have been granted after full consideration in the Examination into the Project One application and found to satisfy the various tests for compulsory acquisition under the Planning Act 2008.
- 8.5 The Statement of Reasons for Project Two, with one exception (the compensation compounds), does not address the overlap between the granted powers for Project One and those sought for Project Two. There are no Protective Provisions in the draft Development Consent Order to provide protection to Project One in relation to how the powers sought might be utilised. Section 9 of the Cable Statement (Document 11.2)

does, however, acknowledge the issue in general terms and highlights the need for a confidential cooperation agreement, which is under active negotiation.

- 8.6 The Project One Companies have reviewed the overlap of the powers sought for Project Two with the powers already secured in the Project One Order. The interaction between the powers is shown on 54 plans included at Appendix 7 referred to in this submission as the Project One Project Two Onshore Overlap Plans (the Overlap Plans). These plans show which Plots in the Project Two Land Plans affect the Plots in the approved Land Plans (Appendix 8) under the Project One Order. In addition the Overlap Plans show the full red line of the Project One Order Limits with the land unaffected by Project One shown in dark grey. Finally, the plans show in light grey the Project Two Order Limits land which does not overlap with the Project One Order Limits.

Project One Substation

- 8.7 There is a particular conflict between the Project Two proposals and the approved Project One substation, shown on Overlap Plan 1. Plot 506 in part seeks permanent acquisition of a significant part of the Project One substation land where Project One already has powers to acquire the land permanently. (The remainder of Plot 506 seeks permanent acquisition of land which Project One has temporary use powers for the purpose of constructing the neighbouring Project One substation.) In addition, Plot 505 seeks temporary occupation of the majority of the Project One substation land where Project One already has powers to acquire the land permanently. Finally, Plots 503 and 507 seek powers of temporary occupation and acquisition of permanent rights over land where, again, Project One already has powers to acquire the land permanently.
- 8.8 Since the grant of the Project One Order, Project One has significantly progressed its detailed design phase for the onshore substation. The designs show that Project One requires the full extent of the consented Order Limits designated for permanent use for the substation. Figure 1 below provides a visualisation of the Project One substation showing how the electrical infrastructure will fill the full extent of the Project One Order Limits at the substation site.

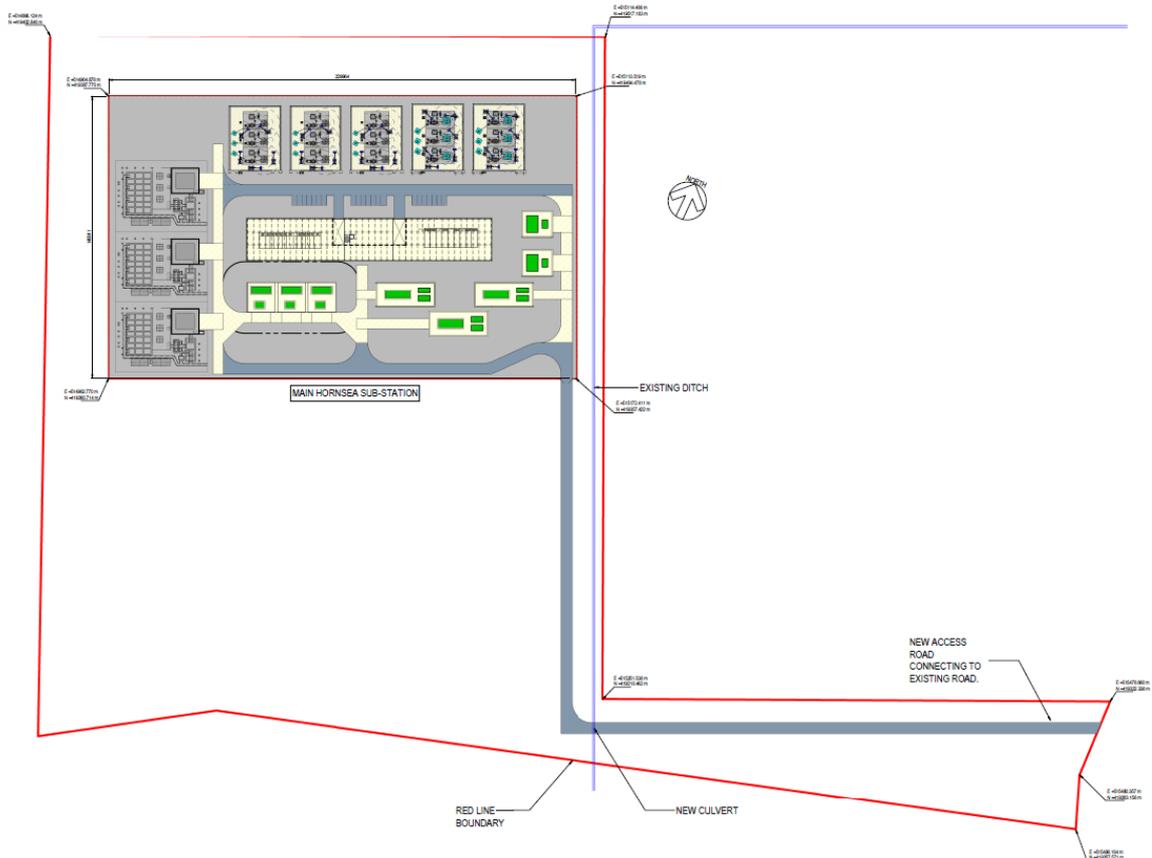


Figure 1: Diagram showing the Project One substation infrastructure illustrating full utilisation of the Order Limits for the substation.

- 8.9 The Statement of Reasons does not explain why Project Two requires permanent acquisition of part of this land, as part of Plot 506, in the light of its intended use for Project One (paragraph 5.2.5, for example, does not address the issue²). Given Project One's proposed use and the fact that it has already secured the land by agreement (and, as a fall back, successfully secured powers of compulsory acquisition under the Project One Order), the Project One Companies' request the compulsory powers sought are not granted and that this land is removed from the Book of Reference. If this is not done the uncertainty created by Project Two having competing powers of compulsory acquisition over part of its main substation site would adversely affect delivery of the project and would cause serious detriment to the undertakings of the Project One Companies given that all three statutory undertakers are relying on the delivery of the substation for delivery of the three NSIPs within the Project One Order.
- 8.10 An alternative approach would be for Protective Provisions to be included in the Project Two Order which prevented use of the powers of compulsory acquisition without the agreement of the Project One Companies. This, however, is not appropriate in this instance where it is known in advance that the land will not become available.
- 8.11 The same point applies to the request for powers of temporary use over Plot 505, 503 and 507. These are inconsistent with the delivery of the Project One substation across the full substation land and should be removed from the Order. In addition, the use of the remainder of Plot 506 as a lay down area for Project One needs to be preserved in Protective Provisions or a confidential cooperation agreement.

² The reference to Plot 508 should be to Plot 506.

Other Project One Land

- 8.12 There are various other Plots where Project Two is seeking permanent rights and/or powers of temporary occupation where Project One already has powers for permanent rights and/or temporary occupation under the Project One Order. These are shown in full in the Overlap Plans. If these powers are to be granted, they can only be granted if Project One has certainty as to how and when the powers will be used so that the Project One Companies have the ability to ensure that the construction and maintenance of Project One is not adversely affected. This can either be delivered by way of Protective Provisions or a confidential cooperation agreement or both.
- 8.13 The one area where the Statement of Reasons and the Project Two Development Consent Order acknowledges a potential impact on Project One relates to the use of construction compounds for Project One. This is addressed in paragraph 6.5 onwards. The Project One Companies understand and agree with the principle which Project Two is seeking to address. It is essential that the mechanics of proposals work satisfactorily to provide the necessary certainty and protection for Project One. These are the subject of discussions with Project Two as part of the onshore confidential cooperation agreement.
- 8.14 **Proposed solution:** The Project One Companies require the removal of Plots 503, 505, 507 and the northern part of Plot 506 (shown separately on Overlap Plan 1) from the Project Two Development Consent Order and the Book of Reference.
- 8.15 The Project One Companies require suitable Protective Provisions to be included within the Development Consent Order in relation to the other Plots where there is overlap between the powers sought for Project One and Project Two and/or for the relevant matters to be dealt with under a confidential cooperation agreement between the two projects.
- 8.16 The mechanism for the Compensation Compounds needs to provide sufficient certainty and control to Project One in the event that it is triggered. The provisions on the face of the Development Consent Order may require some amendment and may need to be supplemented in a confidential cooperation agreement.
- 8.17 The Protective Provisions for Project One should be included within a new Part 11 of Schedule L "For the protection of Heron Wind Limited".

Risk if proposed solution not implemented: If the relevant part of Plot 506, together with Plots 503, 507 and 508 are not removed from compulsory acquisition it will expose Project One to unacceptable risks in terms of the timely delivery and operation of the substation to be installed and therefore the project as a whole. One important aspect of this is the need to satisfy a future Offshore Transmission Owner that there are suitable protections in place in relation to the transmission assets which it will take over on appointment.

- 8.18 In relation to the remaining Plots where powers overlap, if suitable Protective Provisions are not included within the Development Consent Order to protect Project One (and/or a suitable confidential cooperation agreement is not entered into), it will expose Project One to unacceptable risks in terms of the timely delivery, operation and maintenance of the onshore works to be installed and therefore the project as a whole. Again, an important aspect of this is the need to satisfy a future Offshore Transmission Owner that there are suitable protections in place in relation to the transmission assets which it will take over on appointment.

9 CONNECTION INTO KILLINGHOLME SUBSTATION

- 9.1 **Relevant Representation:** "There are three new generating stations seeking to connect into Killingholme substation - Project One, Project Two and North Killingholme Power

Project (promoted by C.GEN North Killingholme Limited). Project One's current proposal is to begin works for the onshore substation in January 2016. In light of this Heron is in discussion with the Applicant and with C.GEN in relation to the routing of cables to the Killingholme substation."

- 9.2 **Issue in detail:** Project One has a connection agreement with National Grid Electricity Transmission Limited to connect into the Killingholme substation. The Project One Order authorises the construction of that connection. The route(s) available under the Development Consent Order are to be supplemented by a planning permission which has been designed to dovetail with the works powers under the Development Consent Order. This application is currently with North Lincolnshire Council for determination.
- 9.3 Heron has the benefit of powers of compulsory acquisition under the Project One Order, to enable it to secure the necessary property rights to deliver the grid connection, in addition to the rights obtained by agreement.
- 9.4 C.GEN North Killingholme Limited ("C.GEN") does not have planning permission or, it is understood, real estate rights, to connect its project to the Killingholme substation. Its attempt to obtain compulsory acquisition rights for a corridor were rejected by the Secretary of State. Nevertheless, the Project One Order includes protective provisions in favour of C.GEN North Killingholme Limited ("C.GEN"), which provide for the de facto reservation of a route for the grid connection for C.GEN's project to the Killingholme substation. The operation of these protective provisions were varied by way of a confidential agreement dated 20th January 2015. It is not intended that a further agreement will be entered into between the Project One Companies and C.GEN as the matter is already addressed. The Project One Companies are maintaining a dialogue with C.GEN generally going forward.
- 9.5 Project Two also has a grid connection agreement to connect to the Killingholme substation and is seeking development consent and associated compulsory powers in the Project Two Development Consent Order. The issues associated with the interaction between the Project One grid connection and the Project Two grid connection and associated powers of compulsory acquisition form part of the matters under discussion with Project Two as explained in section 8.
- 9.6 **Proposed solution:** The solution proposed in relation to Project Two has already been addressed in Section 8 i.e. a commercially confidential cooperation agreement and/or Protective Provisions. The C.GEN position has been explained by way of background as it does not require further measures in connection with the Project Two application from Project One's perspective.

10 INTERTIDAL ACCESS

- 10.1 **Relevant Representation:** "The interaction between the two projects during construction and maintenance must be controlled to ensure that the delivery of services to Project One is not adversely impacted."
- 10.2 **Issue in detail:** The Project Two draft Development Consent Order includes a condition in the deemed Marine Licences (Project A: Transmission assets and Project B: Transmission assets, Schedule 1, Part 1) stating that, where works authorised by the Project One Offshore Wind Farm Order 2014 are planned to take place within the Project Two Order Limits, the undertaker must not construct or install licensable activities comprised in Work numbers 4A and 5B within 1km of the sea wall. The condition as stated in the draft Project Two Development Consent Order states:

"In the event that works authorised by the Hornsea One Offshore Wind Farm Order 2014(a) are planned to take place in the intertidal area comprised within the offshore Order limits or within the area whose co-ordinate in paragraph (5) below, the undertaker must not construct or install those licensable activities comprised in Work Nos. 4A and

5A within one kilometre seaward of the seawall during the period of time commencing two hours before a high tide greater than 7.7 metres (as measured at Grimsby) and ending two hours after a high tide greater than 7.7 metres (as measured at Grimsby) between 1 April and 31 May (inclusive) and 1 August to 30 September (inclusive), unless otherwise approved in writing by the MMO, in consultation with Natural England."

10.3 The Project One deemed Marine Licence 4 carries a similar condition which states:

"In the event that the MMO notifies the licence-holder that other works are planned to take place in the intertidal area comprised within the offshore Order Limits or within the area whose coordinates are set out in Table 8, the licence holder must not construct or install those licensable activities comprised in Work Nos. 6 and 7 within one kilometre seaward of the seawall during the period of time commencing two hours before a high tide greater than 7.7 metres (as measured at Grimsby) and ending two hours after a high tide greater than 7.7 metres (as measured at Grimsby) between 1st April and 31st May (inclusive) and 1st August to 30th September (inclusive), except to the extent approved in writing by the MMO, in consultation with Natural England."

10.4 There is some ambiguity between these two conditions. On the one hand the condition within the Project Two draft Development Consent Order states that relevant works in the intertidal area will not be carried out if Project One activities are being carried out in the same area however, the Project One deemed Marine Licence states that Project One activities cannot be carried out in the same area if "other works" are planned to take place.

10.5 Project One is a consented project and has been awarded a Contract for Difference. As set out earlier in this Written Representation, Project One has to meet a series of milestones related to project development costs or supply contracts. As a consequence of this, the construction programme must align closely with the Contract for Difference to avoid any termination of the contract. The Project One intertidal cable installation is currently programmed for 2018. According to Document 7.1.3: Project Description; Section 3.5, Project Two is anticipated to commence construction in 2017 with intertidal cable installation anticipated to take place in Year 2. This suggests that the Project Two cable could be installed in the intertidal area in 2018.

10.6 Although, in theory, the intertidal section of the Project One export cable could be installed by the time the Project Two intertidal cable installation commences, Project One may still need access to the cable for installation and inspection purposes and ultimately during commissioning which will take place in 2018, 2019 and possibly 2020. Whilst the drafting in the Project Two draft Development Consent Order provides some protection for planned Project One works, it does not provide protection if emergency repairs works are needed. In the instance that Project Two cable installation is in progress, on the basis of the deemed Marine Licence conditions stated above, access may not be granted to Project One for unplanned works unless Project Two construction activities are halted. Project One and Project Two must come to an agreement about how to prioritise works in the intertidal area – both during construction so as not to risk Project One's Contract for Difference and to facilitate planned and emergency maintenance works.

10.7 **Proposed solution:** The Project One Companies require Protective Provisions to be included within the Development Consent Order or a confidential cooperation agreement (which is under negotiation) which will provide confidence that the detailed design of the route of the export cable (and associated equipment) and their subsequent construction can proceed in a timely manner without unacceptable interference from Project Two. The Protective Provisions will also need to enable the operations and maintenance of the circuits once installed are protected from unacceptable interference from the construction, operation and maintenance of any Project Two circuits.

10.8 The Protective Provisions for Project One should be included within a new Part 11 of Schedule L "For the protection of Heron Wind Limited".

- 10.9 **Risk if proposed solution not implemented:** If a suitable confidential cooperation agreement is not in place or suitable Protective Provisions are not included within the Development Consent Order to protect Project One, it will expose Project One to unacceptable risks in terms of the timely delivery and operation of the circuits to be installed and therefore the project as a whole. One important aspect of this is the need to satisfy a future Offshore Transmission Owner that there are suitable protections in place in relation to the transmission assets which it will take over on appointment.

11 OVERLAP OF ORDER LIMITS - PERMANENT INFRASTRUCTURE OFFSHORE

- 11.1 **Relevant Representation:** "The export cable area for Project Two crosses the consented wind farm array area for Project One. The Cable Statement explains that this is intended to allow for the possibility of a shorter grid connection for the north eastern area of Project Two. Such a route would, however, have substantial adverse consequences for Project One and consequently Project One must be specifically protected under the Project Two Order."
- 11.2 "The offshore export corridor for Project Two overlaps with that already consented for Project One. The interaction between the two projects during construction and maintenance must be controlled to ensure that the safe and timely delivery of Project One is not adversely impacted.
- 11.3 **Issue in detail:** Work Numbers 4A and 4B of the Project Two application (Document 5.1) overlap entirely with Project One's Order Limits. The intention is for Project Two to use this area for permanent infrastructure as described in Figure 3.2 in document 7.1.3 Project Description – this area is identified as a 'shared cable corridor'. There are three areas where protection must be guaranteed to Project One.

Overlap between Project Two export cable route(s) and Project One array

- 11.4 A large part of the area covered by Work Numbers 4A and 4B has already been granted consent in the Project One Order as the location for wind turbine generators (WTGs), array cabling and export cables. Installation of any permanent infrastructure within areas already identified and consented for Project One infrastructure presents a risk to the integrity of the assets.
- 11.5 As explained in section 4 of this submission, Project One is already progressing towards construction. Wind turbine generator and offshore substation foundations are currently planned to be installed in 2018 and 2019; inter array cabling is planned to be installed in 2018 and 2019.
- 11.6 Installation of Project Two cabling across the entire Project One array area(s) would involve a disproportionate number of cable crossings with the associated risk of damage to cables. The Cable Statement acknowledges that this has been included as an option, rather than a necessary part of the project. It must be the case that any cost savings arising from a shorter export cable route will be materially reduced by the extra costs of laying cables across a fully or partially installed array.
- 11.7 **Proposed solution;** The Project One Companies would strongly prefer that consent is not granted for export cables to run across the Project One array area and that Works 4A and 4B are revised accordingly. If, however, that is not accepted, then the Project One Companies require that Protective Provisions are included in the Development Consent Order which give the Project One Companies the ability to approve the detailed arrangements for the interface between Project One and Project Two during the construction, operation and maintenance of the projects.
- 11.8 The Protective Provisions for Project One should be included within a new Part 11 of Schedule L "For the protection of the Project One Companies".

Overlap between Project Two cable corridor and Project One cable corridor

- 11.9 A similar issue arises in relation to the export corridor for Project One. The Project Two export corridor (Works 4A and 4B) overlaps with the full length of the Project One export corridor (Work 6). The Project One Companies require a confidential cooperation agreement (which is under negotiation) or that Protective Provisions are included in the Development Consent Order which give the Project One Companies the ability to approve the detailed arrangements for the interface between Project One and Project Two during the construction, operation and maintenance of the projects.
- 11.10 A variation on these themes arises as the Project Two export corridor approaches landfall and in the intertidal area. Here Works 5A and 5B are drawn such that the Project Two export cable corridor passes just to be north of the consented corridor for Project One, though, importantly, there is overlap in relation to compulsory powers sought for permanent rights for access and anchorage and temporary occupation over Project One's export cable corridor.
- 11.11 **Proposed solution:** Again, the Project One Companies require a confidential cooperation agreement or that Protective Provisions are included in the Development Consent Order which give the Project One Companies the ability to approve the detailed arrangements for the interface between Project One and Project Two during the construction, operation and maintenance of the projects.
- 11.12 The Protective Provisions for Project One should be included within a new Part 11 of Schedule L "For the protection of Heron Wind Limited".
- 11.13 **Risk if proposed solution not implemented:** If a suitable confidential cooperation agreement is not in place or suitable Protective Provisions are not included within the Development Consent Order to protect Project One, it will expose Project One to unacceptable risks in terms of the timely delivery and operation of the circuits to be installed and therefore the project as a whole.
- 11.14 One important aspect of this is the need to satisfy a future Offshore Transmission Owner that there are suitable protections in place in relation to the transmission assets which it will take over on appointment.

12 PROJECT TWO BUFFER AREA AND WAKE EFFECTS

- 12.1 **Relevant Representation:** "If Project Two is constructed up to the Order Limits there will be wake effects which will impact Project One. This has been recognised in the 4 indicative layouts included in the Project Description (Figure 3.5) forming part of the Environmental Statement. Each of these layouts shows a buffer zone (area of no turbine installation) along the full length of the boundary with Project One. This is not however reflected in Project Two's Development Consent Order submission. Project One requires a provision in the Project Two Order which prevents the construction of turbines within the buffer area unless otherwise agreed by Project One. For the avoidance of doubt Project One will require a co-operation agreement in relation to these impacts."
- 12.2 **Issue in detail:** As a wind turbine extracts energy from the wind, it reduces the momentum of and increases the turbulence in the air that has passed through the rotor. This means that the wind passing through a location immediately downwind of a turbine will have a reduced wind speed and decreased electricity production potential. The wind gradually recovers its electricity production potential as it travels onward from the turbine, increasing back towards the level of useful energy it possessed before passing through the first wind turbine.
- 12.3 Turbines that are in the wake of another turbine (in a downwind position) will have a reduced energy production than those in an upwind location as there is less potential energy available in the wind. This loss of energy for downwind turbines relative to

turbines that are not in the wake of another turbine, is called 'wake loss'. The wake loss value for the wind farm is taken as an average of all turbine locations and includes the full distribution of wind speeds and directions. As wake losses represent a loss to the potential power production of a wind farm, they impact the productivity resulting in lower energy yields which in turn will reduce the contribution the wind farm can make to the Government's targets for renewable energy. This is also an important aspect in developing the business case which informs the Final Investment Decision for the project. Wind farm projects therefore seek to reduce wake losses to maximise energy production and to better understand the long term business case for the project.

- 12.4 The wake losses of a wind farm are affected by site conditions such as the wind speed and wind direction. They are also affected by wind farm design factors such as the turbine type, the turbine layout and turbine spacing. In general a windfarm layout optimisation to reduce wake losses seeks to allow each turbine the maximum free space surrounding the turbine, with a bias toward the prevailing wind directions. This means that wind farm layouts optimised for wake losses seek large spacing between turbines, but can have smaller turbine spacing on the windfarm boundaries. The Hornsea Project One layout has been optimised to reduce wake losses as well as considering a large number of other important factors such as navigation and Search and Rescue requirements as well as seabed conditions. The Project One layout has been developed such that the intended layout maximises the yield from Project One.
- 12.5 If Hornsea Project Two is constructed it will increase the wake losses of Project One (and hence decrease the productivity and revenue of Project One) by the above described mechanism as there will be turbines downwind of the Project One turbines in a large range of wind directions. There is some uncertainty within the current understanding of wake effects over very large turbine arrays, such as those seen at Hornsea Project One and Project Two. However, a conservative estimate of the impact that Project Two may have on Project One is an increase in the wake losses by approximately 40%, based on a Project Two layout designed only to reduce wake losses on Project Two.
- 12.6 The current drafting of the Project Two Development Consent Order leaves significant uncertainty as to the level of negative impact that Project Two will have on the business case of Project One. This uncertainty makes taking financial investment decision on the project much harder as well as significantly decreasing the value of the project to potential investors or financial partners, due to the significant increase in the uncertainty on the return of the project.
- 12.7 It is the view of Hornsea Project One that a buffer zone around Project One is required. Within this buffer, Project Two would have to seek approval for any turbine installation. The scale of such a buffer will be agreed by way of a confidential cooperation agreement between Project One and Project Two or Protective Provisions. Such a buffer would not compromise the potential for Project Two to design an efficient turbine layout.
- 12.8 **Proposed Solution:** The Project One Companies require a suitable confidential cooperation agreement (which is under negotiation) or Protective Provisions to be included within the Development Consent Order which will provide confidence that Project Two must agree to the scale of a wake loss mitigation buffer. The exact scale of the wake loss mitigation buffer will be agreed by way of a confidential cooperation agreement between Project One and Project Two.
- 12.9 The Protective Provisions for Project One should be included within a new Part 11 of Schedule L "For the protection of the Project One Companies".
- 12.10 **Risk if proposed solution not implemented:** If suitable Protective Provisions are not included within the Development Consent Order to protect Project One, Project One are at risk of having significant wake losses imposed by Project Two and they will not be able to maximise energy production from the wind farm. This will affect the long term business case for the project. A lack of Protective Provisions surrounding a buffer area

would also increase the uncertainty on the Project One energy yield and hence financial return, this could significantly reduce the ability of Project One to raise finance for the project.

13 PROXIMITY OF PROPOSED PROJECT TWO DREDGED DISPOSAL AREAS TO PROJECT ONE TRANSMISSION ASSETS

13.1 **Relevant Representation:** "The Project Two Order includes the designation of specific areas within the offshore Order Limits as disposal areas for dredged spoil generated during construction. These areas are located within the shared export cable corridor and the Project One Companies are concerned that these activities are controlled to ensure that they will not adversely affect the Project One transmission assets offshore."

13.2 **Issue in detail:** Project Two has issued a site characterisation report to the Marine Management Organisation and Cefas (Document 7.4.3.8 Dredging and Disposal Site Characterisation) to request three sites for the disposal of material produced during the construction of the Project Two project. This material will be produced as a consequence of:

- a. Foundation installation i.e. any drilled material produced during installation of wind turbines, accommodation platforms, offshore substations where drilling is used; and
- b. Cable installation i.e. from dredging sandwaves where dredging is used as a method to prepare the seabed for laying the export cables.

13.3 Of the three proposed disposal sites assessed in the Project Two application, two overlap entirely with disposal sites already designated in the Project One Order. These are identified as Disposal Area 2A and Disposal Area 2B in Document 7.4.3.8 Dredging and Disposal Site Characterisation and also in the draft Development Consent Order deemed Marine Licences (Project A: Transmission Assets and Project B – Transmission Assets). Both of these sites have already been designated as disposal sites HU209 (overlap with Disposal Area 2A) and HU210 (overlap with Disposal Area 2B) for a specified maximum volume in the Project One Order.

13.4 Project One can accept the shared use of HU209 (Disposal Area 2A) and HU210 (Disposal Area 2B) provided that they are only utilised by Project Two for the disposal of sand, and only with coordination and suitable control to protect Project One. This is also subject to Project Two securing the specified increases in volume in the Project Two Development Consent Order application documents.

13.5 **Proposed solution:** A suitable confidential cooperation agreement (which is under negotiation) or Protected Provisions should specify Project One agreement of disposal plans (and any relevant technical studies that evidence these plans) prior to issue to the Marine Management Organisation detailing location, methods and timings of dredging and disposal. It is also necessary that disposal monitoring and control requirements are agreed with Project One in advance of Project Two cable installation. In addition, Project One require a Project One representative on board the vessels engaged in Project Two dredging/disposal activities to ensure disposal takes place only in agreed locations.

13.6 In the event that it is necessary for Project Two to dispose material over the Project One cables only sand is permitted to be disposed over the cables and this should not be done without prior agreement from Project One.

13.7 In the case of clay and boulders only material from cable route clearance and trenching should be disposed of within the cable corridor (but not over Project One cables). The clay should, wherever possible be used to backfill the trenches and the boulders can

only be disposed of clear of any cables in accordance with a proximity agreement which must be drafted and agreed before disposal of boulders can take place.

- 13.8 Material from other operations i.e. wind turbine generator and offshore substation ground preparation or drilling cannot be disposed within the cable corridor.
- 13.9 The Protective Provisions for Project One should be included within a new Part 11 of Schedule L "For the protection of Heron Wind Limited".
- 13.10 **Risk if proposed solution not implemented:** If a suitable confidential cooperation agreement is not in place or suitable Protective Provisions are not included within the Development Consent Order to protect Project One, it will expose Project One to unacceptable risks in terms of the operation of the circuits to be installed and therefore the project as a whole. One important aspect of this is the need to satisfy a future Offshore Transmission Owner that there are suitable protections in place in relation to the transmission assets which it will take over on appointment.

14 RESPONSES TO EXA'S FIRST WRITTEN QUESTIONS

- 14.1 The Questions directed at the Project One Companies are reproduced and responded to in the tables below.

ExA ref.	Question to:	Question	Hornsea Project One Response
PN3	Hornsea Project 1 and the Applicant	<p>The nature of the potential relationships, sequencing and timetabling of the construction of various elements of Hornsea Project 1 and Hornsea Project 2 are unclear, in particular where co-existence is required and rights may have to be shared. Some of the issues of concern are raised in [RR15].</p> <p>Please clarify what progress has been made in the development of a Co-operative Agreement between Hornsea Project 1 and Hornsea Project 2, with regard to each of the following key issues of concern:</p> <p>(a) Overlap of Order limits for onshore temporary workings and compounds</p> <p>(b) Connection into the N. Killingholme sub-station;</p> <p>(c) Inter-tidal access and working areas;</p> <p>(d) Onshore and offshore cable routes and;</p> <p>(e) Offshore turbine layouts.</p> <p>Please also update the ExA on the current position on a SoCG in relation to these issues, as requested in the Rule 6 Letter, Annex G.</p>	<p>The confidential cooperation agreement, which is divided into two agreements (onshore and offshore), is the subject of ongoing and constructive discussions covering all the issues identified in PN3. It is intended that these are signed by Deadline 2.</p> <p>The Agreements are intended to provide for workable cooperation arrangements during all phases of Project One and Project Two.</p> <p>A draft statement of common ground, based on an original draft prepared by the Project Two Companies, has been submitted on 14 July 2015 to Smart Wind Ltd for discussion. It is enclosed at</p>

			<p>Appendix 9.</p> <p>The Project One Companies have been concentrating their efforts on the substantive issues to be addressed in the confidential cooperation agreements. Once these are signed a suitable Statement of Common Ground can be submitted into the Examination which summarises the position at that time.</p>
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ExA ref.	Question to:	Question	Hornsea Project One Response
CA10	Applicant	Do the Hornsea Project 1 Companies wish to comment on the proposed compensation compounds subject to requirement 22 of the draft DCO [APP-010] and set out in the Compensation Compounds Plan [APP-069] and discussed in the SoR [APP-016] in para. 6.5 – 6.12?	See section 8 of the Written Representation in which it is explained that the principle is accepted and the detail is under discussion with Project Two as part of negotiations on a confidential cooperation agreement.

ExA ref.	Question to:	Question	Hornsea Project One Response
CA11	Statutory undertakers (SU), and Hornsea Project 1 companies.	<p>In relation to Requirement 22 'Compensation compounds' of the draft DCO [APP-010] and set out in the Compensation Compounds Plan [APP-069] and discussed in the SoR [APP-016] in p.6.5 – 6.12 can the applicant:</p> <p>(a) Explain what mechanisms will be used to ensure that land earmarked for compensation compounds in Hornsea Project 1 will be made available to Hornsea Project 2?</p> <p>(b) What steps will be taken to ensure that other stakeholders, for example the local planning authorities, are aware of any land transfers and which project operator has</p>	<p>(a) The Project One Companies' understanding of the Project Two proposal is that this would be dealt with under a confidential commercial agreement, which is currently under negotiation.</p> <p>(b) The Project One Companies' understanding of the Project Two proposal</p>

		control of which plot of land?	is that the Compensation Compound arrangements will operate under the ambit of the Project Two Development Consent Order and it is for this reason that they have made the case for them being associated development.
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15 COMMENTS ON RELEVANT REPRESENTATIONS

15.1 The Environment Agency refer at paragraph 12.1 of its Relevant Representation to a land agreement dealing with issues concerning Project One and Project Two. The Project One Companies would like to point out that this agreement does not relate to Project Two.

LIST OF APPENDICES

1. Project One Companies' Relevant Representation
2. The Hornsea One Offshore Wind Farm Order 2014
3. Electricity Generation licences for Heron, Njord and Vi Aura
4. The Hornsea One Offshore Wind Farm (Correction) Order 2015
5. DECC news item dated 23 June 2013 concerning the Final Investment Decision Enabling programme and Statement to Parliament by Edward Davey
6. The Explanatory Memorandum submitted with the draft Project One Order
7. Overlap Plans
8. Project One Land Plans
9. Draft Statement of Common Ground between Project One and Project Two Companies
10. The Final version of the Project One Book of Reference
11. Project One Works Plans