Triton Knoll Offshore Wind Farm Limited
Triton Knoll Electrical System

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Appendix 5: Response to submission from Mr J.E. Spence and Son at Deadline 3

Date: 5th January 2016

Appendix 5 of the Applicant's Response to Deadline 4

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Date: 5th January 2016

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1. J. E. Spence and Son

1.1 J. E. Spence and Son submitted a Written Representation for Deadline 3 (30 November 2015). The representation raised concerns regarding the impact of the proposed development on Site E (Field 6), a wetland habitat created under the Lincolnshire Coastal Grazing Marsh (LCGM) Project as below;

"Firstly I would like to know why R.W.E have chosen to go through the middle of this site? It is visible from the road and the ponds can be clearly seen. At their public exhibition at Orby on the 22nd of October 2014 I showed them an aerial photograph with their proposed route marked on the site (photograph enclosed), R.W.E did nothing. They will not confirm that the site will be restored to its original condition, and their response of "if possible" is not good enough. The only option not to destroy the site is to horizontal directional drill under the site, I have done my research and have spoken to a horizontal drilling contractor, they have confirmed that it IS POSSIBLE and have said there would be no problem. To say this route was chosen to keep away from the 2 no. properties does not hold up. The route passes other properties which are much closer i.e Mr Riggall's at Croft House. The route could have run parallel and closer to the road (please see my plan), which would have caused less disturbance, I ask why could the route not be narrowed to 30m or 40m?"

1.2 The Applicant would highlight that consultation regarding the LCGM began in 2012 and was largely undertaken with Natural England, the Lincolnshire Wildlife Trust (LWT) and Roger Wardle (an independent consultant who has worked previously on the LCGM project). In total 17 meetings or conference calls were held with these parties in relation to the LCGM. This engagement was covered in brief during the issue specific hearing for onshore construction issues and is set out in Appendix 24 of the Applicants' response to Deadline 3.

1.3 The Applicant refers the ExA to the SoCG with Natural England (Appendix 18 of the Applicant's response to Deadline 2) which provides agreements reached with Natural England in regards to the LCGM;

"It is agreed that the approach to assessing potential ecological impacts on the Lincolnshire Coastal Country Park (LCCP) as set out in Table 4-2 of Volume 3, Chapter 4 of the ES, that the habitats are included in the existing environment but that they are not specifically assessed as the LCCP is not designated specifically for reasons of nature conservation importance, is appropriate.

It is agreed that the approach to assessing the Lincolnshire Coastal Grazing Marsh (LCGM) as county level importance, as set out in Table 4-2 in Volume 3, Chapter 4 of the ES, is appropriate.

In relation to LCGM Sites 1 to 7, it is agreed that applied mitigation has been developed through consultation and agreed with the Lincolnshire Wildlife Trust as set out in Appendix 1 of the SoCG with LWT (Appendix 17 of the Applicant's Response to Deadline 2).

It is agreed that the specific fields identified in Appendix 1 of the SoCG with LWT (Appendix 17 of the Applicant's Response to Deadline 2) are those within the LCGM project target areas that require specific mitigation.

It is agreed that there are no new areas within the LCGM Target Area intersected by the Order Limits, which are currently anticipated to be included within the existing Higher Level Stewardship Agreements or the new Countryside Stewardship scheme and therefore there is no requirement to increase the cable burial depth in the LCGM Target Areas.

It is agreed that the proposed development will have no impact on future LCGM habitat creation in line with Appendix C of this SoCG.

It is agreed that there is no requirement to increase cable burial depth in LCGM Site B."

1.4 The Applicant sets out in its response to Question **EOn 2.5** ExA's second written questions that;

> *"The Applicant held a meeting with the Lincolnshire Wildlife Trust (LWT) and Roger Wardle on 3rd December 2015 to discuss further mitigation measures proposed by the Applicant with regard to Site E/Field 6. Following this meeting the mitigation measures were updated after considering comments received both during the meeting and from correspondence provided by LWT. In parallel with the development of the mitigation measures, the Statement of Common Ground with LWT was also updated to reflect the change in position.*
>
> *LWT and the Applicant agree that the mitigation set out in the Outline Construction Method Statement (Revision B) (CMS) and secured in Requirement 14 of the DCO will ensure that the impact on the coastal grazing marsh is no more than Minor Adverse and Not Significant in the short term, with impacts becoming negligible in the medium and long term (see paragraphs 4.8 and 4.33 of the SoCG with LWT attached Appendix 34 of the*

Response to Deadline 4). The agreed mitigation does not include trenchless crossing of Site E / Field 6, either through HDD or thrust boring.

It is acknowledged that LWT have expressed a preference for Site E/Field 6 to be crossed using HDD or that the working area be realigned to the field boundary (see paragraphs 4.9 of Appendix 34 of the Response to Deadline 4). However, as the impact predicted is not significant in EIA terms, the Applicant is of the opinion that the increased engineering and scheduling risks associated with these mitigation measures is not warranted (see paragraphs 6.2 and 6.3 of the SoCG with LWT attached at Appendix 34 of the Response to Deadline 4). It should be noted that mitigation regarding the scheduling of works to avoid impacts on breeding birds has been included within the proposed mitigation, as has a commitment to re-instate the foot drains within the field on the same alignment as currently (see Appendix 1 of the Outline Construction Method Statement (Revision B) at Appendix 21 of the Response to Deadline 4).”

1.5 The Applicant refers the ExA to Appendix 1 of the SoCG with Lincolnshire Wildlife Trust (LWT) (Appendix 34 of the Applicant’s response to Deadline 4) the specific mitigation measures which are to be applied to Site E / Field 6 as follows:

- “*Working width to be narrowed to 40m when crossing the foot drains located within the field;*
- *Drains bordering the field (reference numbers DK_179, DK_181 and DK_183) will be crossed trenchlessly. The trenchless crossing launch and exit pits will be situated at least 10m away from the ditch bank. This will ensure that measures taken by the LCGM project to raise water table levels (e.g. soil compaction of field edges) will not be compromised by the installation of cable ducts;*
- *Measures to be implemented to ensure that in-filled material does not become a preferential drainage pathway (i.e. clay stanks, geosynthetic clay liners, plugs in duct ends) specified by a drainage engineer at detailed design phase;*
- *Trench infill specification to be confirmed as being equally or less permeable than surrounding soils;*
- *Haul road (~340m) to be constructed of temporary panels laid on surface without soil stripping; Soil storage areas to be covered by bog mats or geotextile to retain grassland below (i.e. no soil stripping). Soil stripping only to take place in areas in which cables are to be buried;*
- *To enable remaining grassland to be managed appropriately, livestock will be granted access to cross the Order Limits (through gated access in fences) when it is possible to be safely and carefully managed. Grass sward within the Order Limits will be managed appropriately using mechanical measures (e.g. grass mowing, strimming etc.);*

- *Use netting or other barrier to screen the working area from surrounding area if required (to be determined by the ECoW);*
- *To schedule the works appropriately to minimise impacts to wintering/breeding birds and to avoid times of inundation. During detailed construction scheduling duct installation will be scheduled to begin within this field between August and October to minimise potential disturbance of breeding lapwing;*
- *Following the detailed electrical design identifying joint pit and link box locations, Field 6/Site E will be included within the consideration of secondary constraints to enable, if possible, the avoidance of these structures within the field boundary. This being to reduce the potential for disturbance of breeding birds during routine maintenance inspections;*
- *To reinstate the scrapes/blind ended ditches as currently in place to the current layout. The location, depth and form of scrapes will be accurately plotted via a topographical survey prior to construction beginning within the field to ensure that the current landscape can be restored accurately;*
- *To discharge any water pumped from excavations to scrapes/blind ended ditches should this be determined as a benefit to biodiversity;*
- *Restore the site once cable ducts and cables have been installed (i.e. topsoil reinstated and seeded soon after construction in section is complete. An appropriate seed mix will be used to maintain or enhance current floral composition in discussion with the landowner). If haul road is required at a later date temporary track way to be used;*
- *Following restoration the re-instated foot drains will be refilled with water to an agreed level. This activity would only be carried out should the relevant authority grant a temporary abstraction licence. The need for this measure would be determined by the ECoW and the Agricultural Liaison Officer in discussion with the landowner.*"

1.6 In relation to the site selection of the cable route, paragraph 6.1 of the SoCG with LWT (Appendix 34 of the Applicant's Response to Deadline 4) states that:

"The parties have not reached agreement on the positioning of the cable route, as it passes through the LCGM project target area of Burgh Le Marsh. LWT would prefer that the cable route completely avoids the target area to prevent impacts on grazing marsh priority habitat and areas in which this habitat could be created in the future. It is the Applicant's view that the design of the cable route as described in Volume 1, Chapter 4 Site selection and alternatives of the ES (Document Reference 6.2.1.4) has taken into account a full range of considerations including environmental constraints such as ecological sensitivity (especially grasslands), archaeologically sensitive areas, existing land use considerations, the Lincolnshire Wolds Area of Outstanding Natural Beauty and the historic environment, particularly National Trust's Gunby Hall Estate. Environmental considerations were considered alongside cost considerations such as

length of cable route. The consideration of the various factors determined the course of the cable route, which would cause the least harm to the environment overall, despite the known presence of grazing marsh habitats."

1.7 Mr Spence also requested the following information in the representation;

"With regards to site E and my other fields (please refer to plans enclosed) I would like somebody to provide me with the following :-

1) Drawings showing proposed locations of horizontal directional drilling.

2) Drawings showing locations of cable jointing pits.

3) Drawings showing any other above ground structures.

4) Details and plans of land drainage in the affected fields.

5) The length of time my land will be out of production."

1.8 In regards to the drawings showing the proposed locations of Horizontal Directional Drilling the Applicant refers the ExA to Appendix 44 of the Applicant's response to Deadline 4 for the plans. The Applicant would clarify that the specific location for each of the entry and exit pits of the HDD's are not yet confirmed as this information will be subject to site specific ground condition and engineering surveys carried out at the detailed design stage.

1.9 In regards to the drawings showing the locations of cable jointing pits the Applicant refers the ExA to the Construction sequencing, cable testing and joint bay location clarification note (Appendix 22 of the Applicant's response to Deadline 3) which sets out why the link boxes are required, what the link boxes will consist of and how big they are. This document states that the exact locations cannot be specified until the detailed design stage because;

"The location of each joint bay within a cable circuit will be very constrained and is key to the operation of the electrical system. The distance between joints are required to be equally spaced (so each section of cable is the same length) in order to minimise in circulating currents in the cable sheath and therefore reduce running temperatures in the cable.

Given that all lengths of cable within each circuit need to be of the same length, the determination of that length, and therefore exactly where the jointing bays will ultimately be located, is a complex task that requires a significant amount of information. The siting of jointing bays can only be determined once the detailed design of other parts of the electrical system have been completed. This includes finalisation

of the exact route within the 60 m corridor for each circuit, the determination of the location and profile of all trenchless crossings and the final onshore cable design, to be determined with the appointed onshore cable manufacturer. The determination of the location of joint bays therefore comes quite late in the detailed design stage, once other aspects of the overall system design, cable routing and trenchless crossing designs have been completed.

Factors that will influence the determination of cable section lengths and therefore determines the jointing bay locations along the cable route are listed below. Note, this list is not hierarchical and all factors will be given consideration in the design phase:

- *A limit on the length of individual cable lengths (c.1000 m) due to limits on transportability and friction induced cable stress during cable pulling. There is a preference, within that limit, to have as long cable sections as possible, to limit the number of jointing bays and therefore reduce construction time and complexity.*
- *Ensuring cable joints aren't located at inaccessible locations such as below railways, roads, or drains, where cable jointing pits could not be constructed.*
- *Ground condition information taken from pre-construction surveys and input from landowners via the project's Agricultural Liaison Officer (ALO).*
- *A preference, where possible, to locate jointing bays at field boundaries.*

Once joint bay locations have been determined, the location of the link box associated with each joint can be determined. Each link box must be within 15 m of the joint as the link between cable phases provided by the link box loses its effectiveness beyond that distance.

The link boxes will be located within the 60 m cable corridor, but the link boxes associated with each circuit may be grouped and orientated in a number of different arrangements. Discussions will be held between relevant landowners and the ALO regarding the arrangement, such as the preference for the orientation of a number of adjacent link boxes to be in-line with field ploughing direction."

1.10 In regards to the drawings showing any other above ground infrastructure the Applicant advises that the only other above ground infrastructure will be located at the Landfall, Intermediate Electrical Compound and Substation. Detailed designs have not been undertaken for each of these but an indicative layout of the Landfall can be found as Figure 1-7 of Volume 3, Chapter 1 *Onshore Project Description* (document reference 6.2.3.1) of the ES. Figures 1-3 and 1-4 of Volume 3, Chapter 1 of the ES show the

location of the compounds and above ground infrastructure within the zones. There will be no other above ground infrastructure located at Site E.

1.11 In regards to the request for detailed land drainage plans in the affected field, the Applicant refers the ExA to the Agricultural Land Drainage clarification note (Appendix 26 of the Applicant's response to Deadline 2) which sets out that although the Applicant cannot provide detailed plans at present the Applicant has made several commitments in regards to land drainage in the latest Heads of Terms set to landowners in September 2015 which includes offers to;

- reinstate drainage systems to the landowner's reasonable satisfaction ensuring that the drainage system is put back in a condition that is at least as effective as the previous condition;
- adhere to best practice for field drainage installations when restoring drainage;
- take into account site specific conditions;
- consult with the landowner, prior to the installation of the cables, on the design of any land drainage works required, both pre- and post- installation; and
- employ a suitably qualified drainage consultant to act as an independent drainage expert prior to the installation of the cables.

1.12 These commitments are set out, along with wider commitments in relation to agricultural land drainage, in Section 4 of the Outline Soil Management Plan (Revision B) (Appendix 25 of the Applicant's Response to Deadline 4) and secured in Requirement 14 of the draft DCO (document reference 3.1)

1.13 In regards to the length of time that Mr Spence's land will be out of production the Applicant refers the ExA to paragraph 1.25 of Appendix 5 of the Applicant's response to Deadline 3 which states;

"The Applicant reiterated that the length of time spent on any one land holding will depend on the construction programme and when works are commenced on that land and that a number of factors may influence this. The average duration for the construction 'site' to be across any given landholding is 3.5 years. This will however be less in some cases and potentially more in others with a maximum worst case of 54 months."

1.14 The Applicant notes that the worst case durations were set out in Table1-2 of Volume 3, Chapter 1 of the ES and assessed in Volume 3, Chapter 5 *Land Use, Soils and Agriculture* (document reference 6.2.3.5) of the ES.

1.15 The Applicant submitted further clarification on the construction sequence as the Construction sequencing, cable testing and joint bay location clarification note (Appendix 22 of the Applicant's response to Deadline 3).