



Triton Knoll Offshore Wind Farm Limited Triton Knoll Electrical System

**Appendix 4: Response to
submission from Ian Grant at
Deadline 3**

Date: 5th January 2016

**Appendix 4 of the Applicant's
Response to Deadline 4**

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Triton Knoll Electrical System

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Date of Approval:	05/01/2016
Revision:	1.0

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1. Ian Grant

1.1 Ian Grant submitted a Written Representation and Comments raised after Accompanied Site Visits for Deadline 3 (30th November 2015). The Representation raised a number of specific issues and concerns regarding potential impacts arising from the proposed development. The issues raised relate to the following:

1. Capacity at Killingholme
2. Agricultural Liaison Officer
3. Field drainage
4. Access track
5. Soil Analysis and drainage during cable installation
6. Sibsey Lancaster War Memorial
7. Viking

1.2 The Applicant's response to the matters raised in each of the categories is below, and broadly follows the structure of the questions posed within the Representation and the comments on the accompanied site visits.

Capacity at Killingholme

1.3 In response to the concerns raised regarding the interface connection point the Applicant has also provided clarification with regards to alternative connection points in its responses to Questions **Alt 1.1, 1.4, 1.5,** and **1.7** of the ExA's First Written Questions.

1.4 The Applicant refers the ExA to its response to **Alt 1.8** which states

"The Applicant is not in a position to confirm whether capacity now exists at the listed substations."

"The Applicant does not consider that the Environmental Statement needs to be updated or reappraised for the following reasons:"

“- for the purposes of the Environmental Impact Assessment undertaken for the TKES there has been no change in circumstances, such as a change to the project, the baseline or the cumulative position that needs to be considered;”

“- any study of this nature (a comparative study analysing multiple variables based on current and future assumptions and constraints) can only ever be undertaken with the information available at the time. The Applicant used the best information available at the time to perform this study and is confident that the data presented in the Interface Selection Assessment Report (ISAR) (document reference 8.18) demonstrates that this has been achieved. Furthermore, in order to fulfil their licence obligation to ensure that the system design is economic and efficient, NGET reviewed this study in 2014 as part of the modification application process to the TK Grid Connection Agreement.”

“This took place prior to the submission of the TKES DCO application and resulted in NGET advising the Applicant that the conclusions were still remain valid (see 4.78 of APP-023 (6.2.1.4 Site Selection and Alternatives)).”

- 1.5 The ExA is also referred to the draft Statement of Common Ground (SoCG) submitted by the Applicant at Deadline 1 with Boston Borough Council (BBC), East Lindsey District Council (ELDC) and Lincolnshire County Council (LCC) (Appendices 27, 28 and 30 (respectively) of the Applicant’s response to Deadline 1) which indicate that those parties agreed that the interface point chosen is the best location for the connection of TKOWF to the wider national grid.

Agricultural Liaison Officer

- 1.6 The Applicant agrees with the comments made by the Mr Grant that the role of the Agricultural Liaison Officer (ALO) is important for land management and drainage reinstatement and would refer the ExA to the Applicants Response to Question **SE 2.12** of the ExA’s Second Written Questions which sets out that;

“The ALO team will be involved in proactively meeting landowners and farmers on a regular basis during the detailed design and construction phases. The involvement of landowners and farmers is key to making sure the detailed design is appropriate and takes into account local information and the wishes of the landowners where possible. It is not possible at this stage to confirm the frequency of the landowner visits, however the Applicant has agreed to a strategic meeting with the LIG on a quarterly basis throughout the development to discuss key issues affecting landowners involved with the proposed development.

The Role of the ALO team is set out in detail in Section 2 of the Outline Soil Management Plan (Revision B), which is attached at Appendix 25 of the Applicant’s Response to Deadline 4.

The Applicant considers that the ALO function will be appropriately resourced to deal with the range of activities throughout the life of the project. During some periods the ALO role may be resourced with one person, such as prior to detailed design or during operation, whereas during detailed design stage there may be a number of ALOs working in a diverse team covering all aspects of the role. To clarify this Section 2 of the Outline Soil Management Plan (Revision B) states that

“engagement requirements will vary over the life of the project but will be provided by an appropriate number of suitably qualified Agricultural Liaison Officers (ALO), working together in a team managed by the Applicant. This note refers to the Agricultural Liaison Officer, however it is recognised by the Applicant that a number of people will be needed to fulfil this role during the pre-application design and construction phase of the proposed development.”

The ExA is referred to Section 2 of the Outline Soil Management Plan (Revision B) (Appendix 25 of the Applicant's Response to Deadline 4) for a full list of the responsibilities of the ALO team. The ALO team will be resourced appropriately to ensure these commitments, which are secured through the Code of Construction Practice in Requirement 14 of the draft DCO (document reference 3.1) [REP3-043], are carried out to a high standard. It is not possible at this stage to confirm the numbers of ALO employed at any particular stage of the development.”

- 1.7 The Applicant also highlights that Section 2 of the Outline Soil Management Plan (Revision B) (Appendix 25 of the Applicant's Response to Deadline 4) has been comprehensively revised following representations from interested parties and the section relating to the role of the ALO has been comprehensively discussed with the LIG. The Applicant is confident that agreement on the wording will be reached with the LIG prior to Deadline 5.

Field drainage

- 1.8 The Applicant recognises that the issue of land drainage is of great importance to landowners and is a topic which has been brought to the Applicant's attention through the various rounds of non-statutory and statutory consultation with landowners and other stakeholders as well as through discussions with landowners and their representatives and landowner organisations such as the National Farmers' Union.
- 1.9 Recognising the importance of this issue, the Applicant consulted with Land Drainage Services, a local specialist drainage contractor as part of the 2014 Cable Route Consultation.
- 1.10 The Applicant's responses to Questions **SE 1.11** and **SE 1.12** of the ExA's First Written Questions address concerns with regards to land drainage. In summary:

-
- The Applicant considers that the application documents (including Appendix 5 to the *Outline Code of Construction Practice (CoCP)*, *Outline Soil Management Plan (SMP)* (document reference 8.7.5); Appendix 1 to the *Outline CoCP*, *Outline Construction Method Statement (CMS)* (document reference 8.7.1); and Volume 3, Chapter 1, *Onshore Project Description* of the ES (document reference 6.2.3.1)) illustrate how potential impacts on land drainage have been addressed in the design of the onshore cable route;
 - The Applicant's proposal to landowners for private treaty agreements 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.

1.11 In addition, the Applicant has submitted a clarification paper in relation to land drainage as Appendix 26 of the Applicant's response to Deadline 2.

1.12 The Applicant has sought to ensure that the most suitable approach to land drainage for each specific location can be put in place once the detailed design of the onshore electrical infrastructure has been settled during the pre-construction phase, rather than attempting to design drainage schemes for each land parcel before detailed design is settled. The latter approach would have resulted in schemes being designed that would need to be revisited, and in all likelihood substantially reworked, once the detailed cable design had been undertaken.

1.13 The Applicant has included in the HoTs a request that landowners provide drainage plans, where available, to the Applicant prior to installation of the cables, to benefit the design of site-specific drainage reinstatement tailored to the individual requirements of each field.

- 1.14 As set out in the Applicants Response to Question **SE 2.16** of the ExA's Second Written Questions, the Applicant and the Land Interest Group¹ (LIG) discussed the agricultural land drainage at meetings held on the 3 and 22 December 2015. Detailed wording has been provided by the LIG and where necessary, wording has been included in the Outline Soil Management Plan (Revision B) (Appendix 24 of the Applicant's Response to Deadline 4).
- 1.15 The Applicant's commitments in relation to the reinstatement of agricultural land is included set out in detail Section 2 of the Outline Soil Management Plan (Revision B) (Appendix 24 of the Applicant's Response to Deadline 4), which is an appendix (Appendix 5 – document reference 8.7.5) to the Outline CoCP (document reference 8.7).
- 1.16 The Applicants Response to Question **SE 2.9** of the ExA's Second Written Questions sets out the Applicant's commitment to ensuring that field drainage is not impacted by the proposed development;

“The Applicant has committed to installing cable circuit below the level of any active agricultural land drainage systems. A minimum separation distance between cable circuits and drainage pipes of 0.3 m is considered to be appropriate. This principle, alongside the commitment to install cables at least 1.2 m from the ground surface ensures that normal farming operations are not impeded.

The Applicant considers that a depth of at least 0.3 m between cable circuits and drainage pipes is sufficient to ensure that drainage systems can be effectively reinstated and safely operated and maintained. A greater depth of separation would not afford drainage systems greater protection and would unnecessarily increase the overall environmental impact of construction due to the greater overall excavation depth.

The Applicant considers that the existing commitment to burial depth in paragraph 1.131 in Volume 3, Chapter 1 Onshore Project Description of the ES [APP-042], which states that cable will be laid at a depth of 900 mm from the top of the subsoil, is sufficient. However, in light of representations made during the examination the Applicant is able to specify a minimum depth for the installation of the cable ducts as 1.2 m from the ground surface. This clarification of burial depth from the ground surface has been set out in paragraphs 5.5 the updated Outline

¹ The LIG represents the NFU, LAAV and the CLA.

Construction Method Statement (Appendix 21 of the Applicant's Response to Deadline 4). The Construction Method Statement will form part of the Code of Construction Practice approved by the relevant planning authority in accordance with Requirement 14 of the draft DCO.

The commitment to a burial depth below the ground surface is set out in paragraphs 5.5 of the updated Outline Construction Method Statement (Appendix 21 of the Applicant's Response to Deadline 4). The Construction Method Statement is secured in Requirement 14 of the draft DCO (document reference 3.1).”

- 1.17 The Applicants Response to Question **SE 2.15** of the ExA's Second Written Questions provides some theoretical examples of how the drainage systems would be re-instated;

“The Applicant has agreed with the LIG that it would be appropriate and helpful to provide indicative designs for the examples of field drainage systems provided by DMJ Drainage as part of the as part of the Appendix 2 for Deadline 1 submission Wilkin Chapman LLP. It should be noted that without all the information from pre-construction surveys and system design as part of the detailed design process these designs can only be indicative at this stage.

The Applicant has undertaken theoretical designs for these 4 fields (Plot 001 – Plot 004) in Appendix 46 of the Applicant's Response to Deadline 4.

Plot 001 illustrates the location of a 160 mm sacrificial pre-installation header drain to manage drainage above the Order limits during construction. This sacrificial pre-installation header drain will pass beyond the field boundary along the Order Limits to outfall in the IDB drain. Nine 80 mm post-installation drains would cross connect existing drainage system to specification over the construction corridor. No works would be required outside of the Order limits to reinstate the drainage system to a condition that is at least as effective as the previous condition, with no impact on ongoing maintenance regimes.

Plot 002 illustrates the location of a 160 mm sacrificial pre-installation header drain to manage up field drainage during construction and to outfall into the adjacent non IDB field drain. Twelve 80 mm post installation drains would cross connect the existing drainage system to specification over the construction corridor. No works would be required outside of the Order limits to reinstate the drainage system to a condition that is at least as effective as the previous condition, with no impact on ongoing maintenance regimes.

Plot 003 illustrates the location of a 160 mm sacrificial pre-installation header drain to manage up-field drainage during construction and to outfall into the adjacent

non-IDB field drain. The sacrificial header drain has a slight bend at its southern part to accommodate a turn in the Order Limits. Sixteen 80 mm post-installation drains would cross connect the existing drainage system to specification over the construction corridor. In the south western part of the field where the Order Limits enter, there is an area where there are six closely spaced drainage pipes which connect into a small main drain. While it would be possible to reinstate this localised system within the Order Limits, it is considered that, with the landowner's agreement, a reasonable improvement to the overall drainage system can be achieved by connecting post installation pipes into the down field drainage system. This would mean that the entire field could be maintained with a pipe jetting technique. This material improvement in the post construction drainage system would require one cross connection to take place both inside the Order limits and also around 10 m outside the Order limits. The Applicant considers that this is a good example of where the landowner might reasonably request that works take place outside of the Order Limits.

Plot 004 illustrates an example of reinstatement that doesn't include cross connections. In the western field there are two pre-installation drains picking up existing drainage which is running west to east. The post-installation drainage will run parallel with the Order limits outfalling into the centre ditch running north to south. The eastern field also has two pre-installation drains picking up existing drains running east to west. Again, the post-installation drains will run parallel with the order limits. At the northern part of this field where the corridor bends two drains would be connected to the existing system to allow normal jetting practices to take place. No works would be required outside of the Order limit to reinstate the drainage system to a condition that is at least as effective as the previous condition, with no impact on ongoing maintenance regimes."

Access track

- 1.18 In respect of the concern raised regarding the 6 inch irrigation water pipe running along the access track the Applicant advises that in the updated crossing schedule and [HDD plans] a commitment has been made to HDD under drain [311] and the HDD will encompass the irrigation pipe.
- 1.19 The representation also raised a concern regarding the location of the permanent access route and suggested an alternative route running along the ditch rather than across the field.
- 1.20 The Applicant highlights that as set out in paragraph 4.65 – 4.66 of the Statement of Reasons (document reference 4.1) that;

“Access ways into every field along the onshore cable corridor are required to facilitate access to the cable corridor for the following reasons:

- Undertake surveys and investigations in advance of construction commencement;*
- Erect site fencing along the working area of the cable route at the start of construction of each section of the route, before the haul road is installed;*
- Remove site fencing following completion of construction and following the removal of the haul road;*
- Inspection, maintenance and repair activities during the operational life of the wind farm, when the haul road and temporary construction compound access points are not in place.*

The access ways for surveys, site fencing and maintenance have been chosen, where possible, to utilise existing field entrances and existing tracks around and across fields to reach the cable route. No permanent works or development is proposed on the access ways, although some temporary measures may be required, such as laying temporary bridges over open drainage channels.”

- 1.21 The Applicant will evaluate the suitability of any alternative access proposed by a land owner and, if the proposed alternative is suitable, is happy to include a commitment to use the alternative in lieu of the originally identified access in the private treaty agreement with the landowner. A site meeting is arranged with Mr Grant on the 13th January and the Applicant would be pleased to discuss site specifics then.

Soil Analysis and drainage during cable installation

- 1.22 The Applicant would refer the ExA to the points made above in regards to drainage and the role of the ALO and would highlight that as set out in paragraphs 2.9 – 2.22 of the outline Soil Management Plan (Appendix 24 of the Applicant's Response to Deadline 4);

“The ALO will ensure that information on existing agricultural management and soil/land conditions is obtained, recorded and verified by way of a detailed pre-construction condition survey.

A topographic survey will be undertaken where existing surface features exist.

Soil sampling will be undertaken along the cable route to identify and describe the physical and nutrient characteristics of the existing soil profiles.

A risk assessment will be undertaken to identify the risk of translocation of soil diseases etc. i.e. arable land soil/blights and appropriate action taken.

The condition survey will identify for each soil horizon (topsoil, upper subsoil and lower subsoil), the depth, texture, colour, mottling, stone content, consistency and structure. Soils should be described according to the methods and terminology contained in the Soil Survey Field Handbook. Topsoil samples will also be taken for laboratory analysis of pH, organic matter content and major nutrients (phosphorus, potassium, nitrogen and magnesium).

A drainage survey will be undertaken to establish the exact nature of the as known existing field drainage system and drainage outfalls including any associated farm drainage that may be affected by the scheme. The drainage survey will identify the provision of any temporary drainage requirements and/or diversions as well as confirm the required cable burial depth. The drainage survey will make use of existing drainage patterns to ensure the full implications of the scheme are understood.

As part of the condition survey the following will also be recorded:

- existing crop regimes;*
- the position and condition of field boundaries;*
- the condition of existing access arrangements;*
- the location of private water supplies (as far as reasonable investigations allow);*
- the type of agriculture taking place;*
- the yield of crops;*
- the quality of grazing land; and*
- the existing weed burden.*

Liaison with affected landowners and tenants will be undertaken to identify potential constraints and barriers to construction and identify the provision of any temporary drainage requirements and/or diversions.

Such aspects will be recorded and entered into a written pre-entry record of condition, which includes photographs and sections dealing with soils and drainage, for each affected landowner. The pre-entry record of condition will be provided to the landowner and occupier and any identified reasonable omissions will be corrected.

The commencement of construction will reflect ALO agreements made with affected parties to minimise disruption, where possible, to existing farming regimes and timings of activities (e.g. cropping).

The ALO will undertake site inspections during construction to monitor working practices and ensure landowners' and farmers' reasonable requirements are fulfilled. The ALO will also be responsible for agreeing reinstatement measures following completion of the works.

Prior to construction, a thermal resistivity survey will be undertaken along the cable route to determine surface temperature and soil thermal resistivity.

The findings of the survey will be used by the TKOWFL engineering team to ensure that the soil that will surround the cable has appropriate physical properties. Any areas where alternative fill material may be necessary will be identified at this stage.

The ALO will be responsible for ensuring that the location, orientation and grouping of link boxes are informed, subject to overriding constraints, through discussions with the landowner."

Sibsey Lancaster War Memorial

1.23 In response to the concerns raised in the representations regarding access and disturbance to the Sibsey Lancaster War Memorial (the Memorial) the Applicant refers the ExA to Appendix 11 of the Applicant's response to Deadline 1 which sets out the Applicant's approach to works near the memorial.

1.24 The Applicant highlights that the Memorial is located 200m away from the edge of the proposed development boundary and that paragraph 1.8 of Appendix 11 which states;

"The Applicant wrote to the Trust on 17 June 2015 confirming that access along the track and across the haul road, and construction works will be maintained for members of the public, so as not to impede any visitors from accessing the Memorial."

1.25 As set out in the Applicants Response to Question **AH 2.4** of the ExA's Second Written Questions, the Applicant has updated the Outline CMS to secure the maintenance of this access and the updated version has been submitted as Appendix 21 of the Applicant's submission to Deadline 4; new paragraph 3.16 secures the commitment as follows:

"Access along the private track leading to the Sibsey Lancaster Memorial has the potential to be interrupted by the proposed development as it crosses the cable corridor. The Applicant will maintain access along this private track, subject to

continued agreement from the landowner, in the same way as set out for the maintenance and temporary diversions of PRow in paragraphs 3.8 – 3.14 above, temporarily re-routing the private access within the Order Limits as necessary.”

- 1.26 The Applicants Response to Question AH 2.4 of the ExA’s Second Written Questions also sets out how access will be maintained and how the existing access track would be affected;

“The gate-controlled crossing, proposed in the Sibsey Lancaster Memorial Clarification Note (submitted as Appendix 11 of the Applicant’s response to Deadline 1 [REP1-054]), will operate in the same manner as those used for Public Rights of Way (PRow) crossings, or in agricultural fields which allow landowners to cross the cable corridor to access other parts of their land. Figure 1 of the Outline Construction Method Statement (CMS), submitted as Appendix 21 of the Applicant’s response to Deadline 4, shows an indicative schematic of the management of a PRow crossing the cable corridor during construction (where diversion is not required) and Figure 2 shows indicative management of a diverted PRow crossing the cable corridor when active installation is taking place; these figures were included in the Sibsey Lancaster Memorial Clarification Note as the method for crossing the construction works at the Sibsey Lancaster Memorial (the Memorial). As set out in paragraph 3.16 of the updated Outline CMS, access to the Memorial will be the same as those where PRow are being maintained for the duration of the construction works.

The Applicant re-iterates that public access can only be maintained with the continued agreement of the landowner, as the access to the Memorial is on private land rather than a public access.

The temporary fencing, which will run along the outer edges of the proposed development boundary, will have gates at regular intervals (made of the same material as the fencing) approximately 6 m in width. These will be kept closed across the cable corridor i.e. allowing the access/PRow to operate as normal for the majority of the time; and will be opened (temporarily blocking access) by the construction contractor’s team as necessary. The opening of the gates will be to accommodate vehicles, personnel and equipment being taken along the length of the haul road.

As explained in the Sibsey Lancaster Memorial Clarification Note [REP1-054], the access may need to be temporarily re-routed, e.g. for the short duration during which the cables are being installed across the track that is used to access the Sibsey Lancaster Memorial. As the access is not a PRow this re-routing is not shown on the PRow Plans (document reference 2.7), however, the re-routing of this track within the Order Limits can be achieved in this location close to the existing track, as there are no other existing assets or obstacles at the surface which would prevent this. The access will therefore only need to be temporarily moved to the east or west by up to

approximately 200m within the Order Limits and within the same landowner's land. The effect on access to and maintenance of the Memorial site during the construction works would therefore be minimal. There are no predicted effects on access to and maintenance of the Memorial during operation; although the access track will be used for any operations and maintenance activities of the TKES cables/cable joint bays that may be required, although these will be infrequent and will not require any closure of the track that is used to access the Sibsey Lancaster Memorial site."

- 1.27 The Applicant's response to DCO 2.6 of the ExA's second written questions, provides detail of how the Outline CMS (Appendix 21 of the Applicant's submission to Deadline 4) relates to the Outline Code of Construction Practice and is thereby secured through Requirement 14(2)(a) of the draft DCO submitted as Appendix 15 of the Applicant's response to Deadline 4.
- 1.28 The Applicant has provided clarification on how the Sibsey Memorial Trust will be kept informed of construction activities and how this will be secured in the DCO in the Applicants Response to Question **AH 2.6** of the ExA's Second Written Questions which sets out the objectives of the Outline Communications Plan which are;
- Communicate effectively and to all relevant parties that works will be taking place, when, where and for how long.
 - Inform local communities, business, leisure and other organisations of any impact our works will have on them.
 - Inform local communities, business, leisure and other organisations how TKOWFL will maximise any positive impacts (eg contract awards) and minimise any potential disruptive impacts.
 - Provide a means of contact for people with questions about TKOWFL's construction activities.
 - Provide regular updates on activity via letters, newsletters, media coverage or drop-in sessions.
- 1.29 Management measures detailed in the Outline Communications Plan include the establishment of a Local Liaison Committee comprising representatives of the local community and the Triton Knoll project team as well as the arrangement of drop in information sessions for the local community and the publicising of newsletters, press releases and signs along the cable route. An identified member of the TKOWF project team will be responsible for communication with local residents, businesses, local councils and highways authorities.

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- 1.30 Requirement 14(2)(j) of the draft DCO, submitted as Appendix 15 of the Applicant's response to Deadline 4, secures a Communications Plan, as a part of the Code of Construction Practice (CoCP), which must be in accordance with the Outline Communications Plan. The relationship between the management plans within the CoCP and Requirement 14 of the draft DCO is further described in the Applicant's response to DCO 2.6 of the ExA's second written questions.

Viking

- 1.31 In response to the request made that any developments on the Viking Project are made available and assessed the Applicant refers the ExA to paragraphs 1.58 – 1.59 of Appendix 3 of the Applicant's response to Deadline 3 which states that;

“In response to oral representations by Natural England and Viking regarding cumulative assessment the Applicant agrees that although Viking was considered by the Applicant, it could not be cumulatively assessed as there was insufficient information to allow a complete assessment, but that Viking will have to assess cumulative impacts with the TKES.

The Applicant highlighted that the Local Authorities are likely to be the consenting authority for Viking and as such they will determine if the environmental impacts, both for the project alone and in-combination with other developments, are acceptable.”

- 1.32 The Applicant also notes the comments made by the ExA during the Onshore Issue Specific Hearing that no assessment can be made of the Viking Project as there is no information available and because the project will come under a different consenting regime but that the relationship between the two projects will be assessed.
- 1.33 The Applicant also highlights that Viking will need to consider the proposed development when undertaking the assessment of constraints on any route selected.