



Triton Knoll Offshore Wind Farm Limited Triton Knoll Electrical System



Appendix 10: Health Impacts and Electro-magnetic Fields Clarification Note

Date: October 2015

**Appendix 10 of the Applicant's
response to Deadline 1**

Triton Knoll Offshore Wind Farm Limited

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1. HEALTH IMPACTS AND EMF's CLARIFICATION

Introduction

- 1.1 This clarification note has been prepared in respect of Triton Knoll Offshore Wind Farm Limited's (TKOWFL, or the Applicant) application for a development consent order (DCO) under the Planning Act 2008 (the Application).
- 1.2 This note seeks to demonstrate, by way of drawing together and summarising parts of the Application, how the Applicant has given consideration to health impacts and effects of electro-magnetic fields arising from the proposed Triton Knoll Electrical System (TKES) onshore works.

Relevant Representations

- 1.3 Relevant Representations, submitted to the Planning Inspectorate under section 56 of the Planning Act 2008 (the 2008 Act), and following the Planning Inspectorate's acceptance of the Application for examination, identified concerns from Interested Parties (IPs) in relation to potential health impacts and effects of EMFs arising from the proposed development. Table 1 provides a list of IPs that have raised concern in their representation.

Table 1 – Interested Parties that are concerned by health impacts and EMFs

Relevant Rep. No.	Interested Party
17	E Smith
21	Jen Cooper on behalf of Willoughby with Sloothby parish Council
38	Jo Harris
50	Theo Fox
51	Miriam Fox
61	Margaret Reeve
68	Harry Rogers
69	Leigh Rogers
70	Richard Yeadon
95	Keal Bros
98	Terra Estate Gmbh & Co KG
101	R J Hurst Esq FRICS FAAV on behalf of Mark Caudwell Limited
107	Southwell and Nottingham Diocesan Board of Finance
112	Shirley Patricia Rogers
113	John Aubrey Rogers
117	Martin Griffiths
118	Giles Johnston on behalf of J F Rowson & Sons (Farmers) Limited

119	Giles Johnston on behalf of R J Riggall & S M Bunn
128	Giles Johnston on behalf of F E Middleton & Son
132	Giles Johnston on behalf of BP Ward, A Ward & V L Ward
145	James O'brien on behalf of Paul Gosling
147	J E Spence & Son
148	J B Boulton on behalf of Alco Eastates Limited
155	Philip Grantham
161	William Newton on behalf of Trustees of the Harley Foundation
163	Public Health England

- 1.4 The Applicant has responded to all Relevant Representations in full in Appendix 1 of the Applicant's Response Deadline 1. In response to any comments made in relation to health impacts and EMFs this clarification note has been referred to.

Electro-magnetic Fields

- 1.5 The Applicant has given consideration to the EMFs that may arise from the onshore power cables in paragraphs 1.109 – 1.113 of Volume 3, Chapter 1, Onshore Project Description of the ES (document reference 6.2.3.1).
- 1.6 Paragraph 1.111 in Volume 3, Chapter 1 of the ES concludes that the shielding incorporated as part of the project design will mean no external electric fields will be produced by underground cables, and that potential magnetic flux density from a 400 kilovolt (kV) cable buried at 1 m below ground is likely to be about 100 microtesla (μT) at 1 m above ground directly over the cable (lower for lower voltages).
- 1.7 This level of magnetic flux density is considered to be negligible and is below the exposure threshold suggested by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). Further the National Policy Statement for Electricity Networks Infrastructure (EN-5) states (paragraph 2.10.8):

"There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences."

- 1.8 Paragraph 1.113 in Volume 3, Chapter 1 of the ES states that *"Potential electromagnetic fields from the onshore electrical circuits will comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) recommended exposure limits for the public, or those outlined by the appropriate EU directive as in effect at the time"*.

Health Impacts

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- 1.9 In response to consultation held in October 2014 under section 42 of the 2008 Act, PHE raised a request for the inclusion of a section in the final Application summarising key information, risk assessments, proposed mitigation measures, conclusions and residual impacts relating to human health.
- 1.10 The Applicant engaged in discussion with PHE in relation to this matter at the time and detailed how and where consideration of health impacts had been addressed within the Application.
- 1.11 The Applicant's response to the request is captured in Appendix 6D of the Consultation Report (document reference 5.1) (communication reference PHE2) as follows:

“Potential human health issues specific to air quality and noise will be addressed in the separate technical assessments. A high level summary of potential impacts on human health is presented as part of the socio-economic assessment (Volume 3, Chapter 3) which is informed by residual effects of health considerations in the air quality and noise assessments. Cross-reference is made in the socio-economic chapter to each of the Air quality (Volume 3, Chapter 10) and Noise (Volume 3, Chapter 11) which contain the methodologies used assess potential health effects as a result of air quality and noise.”

- 1.12 It was proposed by the Applicant in a letter dated 16 January 2015, provided in Appendix 6E of the Consultation Report, that information regarding health issues remain addressed in the separate technical assessments (air quality and noise) rather than drawn into a summary document, as this was considered proportionate and appropriate to the scale of the development and the potential health impacts presented. It was understood at the time of these discussions that PHE found this approach to be appropriate.
- 1.13 For further details on the human health issues taken into consideration in the final Application please refer to Volume 3, Chapter 10 *Air Quality* (document reference 6.2.3.10) and Volume 3, Chapter 11 *Noise and Vibration* (document reference 6.2.3.11) of the ES. Paragraphs 3.114 and 3.115 of Volume 3, Chapter 3 *Socio-economics, Tourism and Recreation* (document reference 6.2.3.3) of the ES summarises the risks to public health and safety, it concludes that overall, the effect on risk to health and safety is considered to be negligible, which in Environmental Impact Assessment (EIA) terms is considered **Not Significant**.

Code of Construction Practice

- 1.14 **Requirement 14** *Code of construction practice (onshore) and construction environmental management plan* of the draft DCO (document reference 3.1) secures the need for a Code of Construction Practice (CoCP) to be submitted and approved by the relevant planning authority, which accords with the Outline CoCP (document reference 8.7) that was submitted with the Application.

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- 1.15 Paragraphs 4.10 and 4.11 of the Outline CoCP set out the Health and Safety Principles committed to, this includes the need for a Health and Safety Plan (H&SP). An Outline H&SP (document reference 8.7.2) was also submitted with the Application as Appendix 2 to the Outline CoCP. The final H&SP shall detail the objectives for TKOWFL and its contractors in order to comply with relevant UK health and safety legislation during the construction of the proposed development.

Public Health England

- 1.16 The Applicant and Public Health England have been in correspondence with regards to the matters raised in their Relevant Representation, and also the response they provided to the Examining Authority's Rule 6 letter.

Please also refer to Appendix 24 of the Applicant's Response to Deadline I, which includes a letter from Public Health England confirming that *“the documentation confirms that the EMF levels will comply with the recommended exposure guidelines. Public Health England (PHE) is now able to confirm that we have no further concerns regarding this aspect of the application.”*