From	Dominika Phillins		
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10:	Kay Sully; KJ Jonansson; Hornsea Project Three		
Cc:	Andrew Guyton; Stuart Livesey		
Subject:	Hornsea Project Three (UK) Ltd response to Deadline 5 (Part 3)		
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Attachments:	image001.png		
	D5 HOW03 Appendix 6 Immature apportioning.pdf		
	D5 HOW03 Appendix 7 IOGP AMG.PDF		
	D5 HOW03 Appendix 9.pdf		
	D5 HOW03 Appendix 10 Article 6(4) Guidance.pdf		
	D5 HOW03 Appendix 11 MarLIN.pdf		
	D5 HOW03 Appendix 12 Ornithology Roadmap vB.pdf		
	D5_HOW03_Appendix 13_ Anatec.pdf		
	D5_HOW03_Appendix 14_HCA_BeatriceA.pdf		

Dear Kay, K-J

Please find attached the 3rd instalment of documents.

Best regards, Dr Dominika Chalder PIEMA Environment and Consent Manager

Environmental Management UK | Wind Power 5 Howick Place | London | SW1P 1WG

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Hornsea Project Three

Offshore Wind Farm

Appendix 12 to Deadline 5 submission - Ornithology roadmap with Natural England for the examination phase (ver.B)

Date: 23rd January 2019







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High level Ornithology Roadmap



- 1. Ornithological roadmap
 - To include a request for confirmation of the parameters recommended by Natural England.
- 2. Age class data from aerial surveys as requested at ISH2.
- **3.** Submission of papers requested by the Examining Authority.
 - Band (2012) Using a collision risk model to assess bird collision risks for offshore windfarms.
 - Mcgregor et al. (2017) A Stochastic Collision Risk Model for Seabirds in Flight.
 - Parsons *et al.* (2015) Quantifying foraging areas of little tern around its breeding colony SPA during chick-rearing.
 - Wilson et al. (2014) Quantifying usage of the marine environment by terns Sterna sp. around their breeding colony SPAs.

- 1. Alternative baseline use of upper confidence limits (densities or population estimates) for December to March in both collision risk modelling and displacement analysis.
- 2. Calculation and presentation of collision risk estimates applying those parameters recommended by Natural England:
 - Nocturnal activity factors as described in paragraph 3.13 of WR.
 - Density data use of upper confidence limits for December to March.
 - Seasonal definitions as described in Table 7.1 of WR.
 - Apportioning values a range of apportioning values as indicated in paragraph 7.19 of WR (e.g. multiples of 10).
- 3. Calculation of displacement mortality applying those parameters recommended by Natural England:
 - Population estimates use of upper confidence limits for December to March.
 - Displacement/mortality rates full matrix will be presented (10-100 for displacement and 1, 2, 5, 10-100 for mortality) with SNCB guidance on appropriate displacement and mortality rates followed.
 - Seasonal definitions as described in Table 7.1 of WR.
 - Apportioning values a range of apportioning values as indicated in paragraph 7.19 of WR (e.g. multiples of 10).

4. Submission of clarifications in relation to those statistical questions raised by the ExA at ISH1.

Meeting with NE following D4 : 21/01/2019

- 1. Discussion in relation to the information submitted at Deadline 4 and to understand if the information provided is in line with the information requested by NE:
 - Presentation of collision risk estimates utilising Natural England's recommended parameters.
 - Presentation of displacement results utilising Natural England's recommended parameters.
- 2. Seek to understand whether there's any additional information that can be submitted that may help to reach agreement on any specific topics (without prejudice to NE's position regarding 24 months baseline data).
- 3. Statement of Common Ground discuss NE's preferences regarding format of SOCG.

- **1.** Clarification in relation to HRA screening as requested by the ExA.
- 2. Submission of PVA clarifications as requested by Natural England.
- 3. Identification of those migratory species considered at other projects in the same migratory front.
- 4. Clarification into the use of OSPAR guidance in relation to the effects of lighting.
- 5. Application of the SNH apportioning approach for immature auks.
- 6. Submission of clarifications in relation to those statistical questions raised by the ExA at ISH1

- **1.** Responses to questions at ISH2
- **2.** Responses to queries raised at Deadline **5**
- **3.** Provision of additional Ornithological data as request by NE at D4.
- 4. Any other clarifications required following submissions at D3, 4 and 5.