

# **Vattenfall Wind Power Ltd**

## **Thanet Extension Offshore Wind Farm**

### **Appendix 6 to Deadline 5 Submission: Schedule of Monitoring**

Relevant Examination Deadline: 5

Submitted by Vattenfall Wind Power Ltd

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Revision B

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# 1 Introduction

## 1.1 Aim of the Schedule

- 1 The schedule of monitoring forms part of the application to PINS for a DCO for the Thanet Extension Offshore Wind Farm (Thanet Extension) project. Its purpose is to map the monitoring measures identified within the Environmental Statement (Application Documents 6.1.1 *et seq*) and subsequent documentation submitted into the written process of the Examination (up to Deadline 5 at the time of writing).
- 2 This schedule was requested by the Examining Authority (ExA) to be revised as a request from the Second Written Questions (Q 2.1.5) in order to account for representations made by Natural England and MMO.
- 3 This schedule relates to both onshore and offshore elements of the proposed development.

## 1.2 Monitoring

- 4 Monitoring will form a central part of certain elements of mitigation which are proposed in respect of the proposed development; a revised Schedule of Mitigation has been submitted to the ExA as Appendix 3 of the Applicant's Deadline 5 Submission.
- 5 All relevant monitoring will be conducted in accordance with the monitoring provisions outlined the DCO Conditions or in the specific monitoring plans to be approved by the relevant authorities pursuant to the Requirements of the draft DCO, or the Conditions of the Deemed Marine Licence(s) which form Schedule 11 and 12 to the draft DCO.

## 1.3 Schedule of monitoring

- 6 Table 1 presents the proposed monitoring by the Applicant and how it has been secured within the draft DCO (Appendix 13 of the Applicant's Deadline 5 Submission).

**Table 1: Monitoring provisions for Thanet Extension**

Monitoring Type	Monitoring Commitment	Relevant ES chapter	Document/ plan	Where secured Draft DCO reference
Saltmarsh monitoring	The Applicant's commitment to undertake monitoring, in line with best practice, and the requests made by Natural England and the Environment Agency following review of previous drafts of the plan. The monitoring is provisionally noted to be up to 5 years, though this will be agreed with the relevant statutory stakeholders on receipt of each monitoring output.	Benthic Intertidal and Subtidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5)	Saltmarsh Monitoring, Reinstatement and Management Plan (PINS Ref REP2-032)	Schedule 12, Part 4, Condition 15 (2)(c)
Ornithological monitoring	<p>An in principle ornithological monitoring plan has been proposed with Natural England, focussing on the key recognised sensitivity and area of uncertainty at Thanet Extension (Red Throated Diver).</p> <p>The Applicant can confirm that due to the potential for monitoring to have low statistical power at the site specific scale (due to low bird density) the Applicant has also provided for the ability to undertake strategic studies should these be more appropriate. The appropriateness of strategic studies, or site specific studies, is noted to be agreed following consultation with Natural England post-consent.</p> <p>The inclusion of strategic studies within the in principle offshore ornithology monitoring plan does not preclude site specific studies should these be preferred but instead offers a commitment to making a robust contribution towards the understanding of the effects of OWFs on red throated diver,</p>	Offshore Ornithology (PINS Ref APP-045/ Application Ref 6.2.4)	In-principle Ornithological Monitoring Plan	Schedule 11, Part 4, Condition 13 (1)(l)

Monitoring Type	Monitoring Commitment	Relevant ES chapter	Document/ plan	Where secured Draft DCO reference
	with the commitment being open to strategic level or site specific level study.			
Geophysical monitoring	Geophysical monitoring across the area in which construction takes place, with a suitable buffer to be determined with the MMO subject to the final design (post-consent).	Benthic Intertidal and Subtidal Ecology (PINS Ref APP-046/ Application ref 6.2.5)	Geophysical Survey Plan	Schedule 11, Part 4, Condition 16(2)(b) Schedule 12, Part 4, Condition 15(2)(d)
Biogenic Reef Plan	Ground truthing (using drop down video) of the geophysical survey data referred to above to inform the biogenic reef plan (and associated micro-siting around areas of core reef)	Benthic Intertidal and Subtidal Ecology (PINS Ref APP-046/ Application ref 6.2.5)	Biogenic Reef Plan (PINS Ref REP1-071)	Schedule 11, Part 4, Condition 16 (2) (a) Schedule 12, Part 4, Condition 15 (2)(a)
Geophysical monitoring (Goodwin Sands MCZ)	Ground truthing (using drop down video) of the geophysical survey data referred to above focussing on areas of cable protection within the Goodwin Sands MCZ (if designated). This monitoring is proposed to be undertaken if cable protection is installed in the Goodwin Sands MCZ. The monitoring seeks to	Benthic Intertidal and Subtidal Ecology (PINS Ref APP-	Geophysical Survey Plan)	Pre construction: Schedule 12, Part 4,

Monitoring Type	Monitoring Commitment	Relevant ES chapter	Document/ plan	Where secured Draft DCO reference
	<p>monitor to monitor epifaunal communities and inundation by sand, with detailed information, including the location of drop down video transects, being provided post-consent for approval by MMO in consultation with Natural England. Note: if the site is not designated or if cable protection is not used then this monitoring requirement will not be undertaken.</p>	<p>046/ Application ref 6.2.5).</p> <p>MCZ Assessment (PINS Refs APP-083/ Application Ref 6.4.5.3 and REP2-006).</p>		<p>Condition 15 (2)(b)(i)</p> <p>Post construction:</p> <p>Schedule 12, Part 4, Condition 17 (5)</p>
<p>Geophysical monitoring (Goodwin Sands MCZ)</p>	<p>Interpretation of the geophysical survey data referred to above to allow consideration of the recovery of the sands and gravels within the Goodwin Sands MCZ, should sandwave clearance be undertaken in the designated site (secured in dML through the relevant disposal site). The monitoring aims to monitor any changes in sediment type following sandwave clearance, and aligns with similar approaches taken for the Walney Extension OWF which was constructed within the Walney MCZ. Detailed information, including the proposed location and extent of the sandwave clearance monitoring study area will be provided post-consent for approval by MMO in consultation with Natural England. Note: if the site is not designated or if sandwave clearance is not undertaken then this monitoring requirement will not be undertaken.</p>	<p>Benthic Intertidal and Subtidal Ecology (PINS Ref APP-046/ Application ref 6.2.5).</p> <p>MCZ Assessment (PINS Refs APP-083 Application Ref 6.4.5.3 and REP2-006).</p>	<p>Geophysical Survey Plan)</p>	<p>Schedule 12, Part 4, Condition 15 (2)(b)(ii)</p>

Monitoring Type	Monitoring Commitment	Relevant ES chapter	Document/ plan	Where secured Draft DCO reference
Intertidal ornithological monitoring	Intertidal ornithological monitoring to ensure adequate mitigation is in place for the ringed plover (if required).	Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5).	Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5)	Schedule 12, Part 4, Condition 11 (m)
Habitat reinstatement monitoring	Monitoring of reinstated habitats is proposed within Pegwell Bay Country Park, Stonelees Nature Reserve and at the substation site. The purpose of the monitoring will be to determine whether the habitat reinstatement has been successful and to identify the need for remedial measures, if required.	Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5).	Outline Landscape and Ecological Management Plan (PINS Ref REP1-069)	Schedule 1, Part 3, Requirement 25
Habitat reinstatement monitoring	All reinstated grassland will be subject to monitoring. Monitoring will also include new ephemeral pools.	Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5).	Detailed Outline Landscape and Ecological Management Plan (PINS Ref REP1-069)	Schedule 1, Part 3, Requirement 25
Terrestrial invertebrate monitoring	Monitoring of open mosaic habitats at the substation will be undertaken in conjunction with the monitoring of terrestrial invertebrates.	Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5).	Detailed Outline Landscape and Ecological Management Plan (PINS Ref REP1-069)	Schedule 1, Part 3, Requirement 25



Monitoring Type	Monitoring Commitment	Relevant ES chapter	Document/ plan	Where secured Draft DCO reference
Terrestrial invertebrate monitoring	Monitoring of terrestrial invertebrates will take place within the retained and created areas of open mosaic habitat at the substation site (where safe access is possible). The need for monitoring of species forming part of the designated site invertebrate assemblages will depend on whether any such species will be affected, and the nature of any measures employed to reduce impacts upon them. Detailed proposals for monitoring of terrestrial invertebrates will be included in the TIMS, which will form part of the detailed LEMP.	Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5).	Detailed Outline Landscape and Ecological Management Plan (PINS Ref REP1-069)	Schedule 1, Part 3, Requirement 25
Cable monitoring	Monitoring of offshore cables (including fibre optic cables) including cable protection during the operational lifetime of the authorised scheme which includes a risk based approach to the management of unburied or shallow buried cables.		Cable Specification, Installation and Monitoring Plan	Schedule 11, Part 4, Condition 13 (g)(iii)  Schedule 12, Part 4, Condition 11 (h) (iii)
Offshore Archaeology	Monitoring of archaeological exclusion zones during and post construction.	Offshore Archaeology and Cultural Heritage (PINS Ref APP-054/	N/A	Schedule 11, Part 4, Condition 13 (h)(v)

Monitoring Type	Monitoring Commitment	Relevant ES chapter	Document/ plan	Where secured Draft DCO reference
		Application Ref 6.2.13)		Schedule 12, Part 4, Condition 11 (i)(v)
Offshore noise monitoring	The noise generated by the installation of the first four foundations will be measured.	Fish and Shellfish (PINS Ref APP-047/ Application Ref 6.2.6)  Marine Mammals (PINS Ref APP-048/ Application Ref 6.2.7)	N/A	Schedule 11, Part 4, Condition 19 (1)  Schedule 12, Part 4, Condition 19 (1)
Onshore noise monitoring	A scheme of monitoring onshore noise during construction to ensure compliance with the construction noise and vibration management plan.	Noise and Vibration (PINS Ref APP-066/ Application Ref 6.3.10)	Construction noise and vibration management plan	Schedule 1, Part 3, Requirement 22 (2)(c)

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