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**To:** [Hornsea Project Three](#)  
**Cc:** [West, Richard \(MMO\)](#); [Stephenson, Paul \(MMO\)](#)  
**Subject:** EN010080 - Hornsea Project 3 Deadline 3 submission  
**Date:** 14 December 2018 12:22:06  
**Attachments:** [EN010080 - Annex A - MMO guidance on MCZ assessments.pdf](#)  
[EN010080 - Annex B - MMO comments on In Principle Monitoring Plan.pdf](#)  
[EN010080 - Annex C - MMO comments on Herring Noise Contours.pdf](#)  
[EN010080 - Example MMO MCZ screening document.pdf](#)  
[EN010080 - Example MMO MCZ Stage 1 Assessment.pdf](#)  
[EN010080 - Hornsea Project Three - Deadline 3 - MMO Post Hearing Submission.pdf](#)

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Good afternoon,

Identification Number: 20010662

Please find attached the MMOs Deadline 3 submission for Hornsea Project 3. The following documents have been attached:

- Post hearing submission including written submission of oral cases and comments on the revised draft DCO
- Annex A – MMO guidance on MCZ assessment
- Annex B – MMO comments on In Principle Monitoring Plan
- Annex c – MMO comments on Herring Noise Contours
- Example MCZ screening document
- Example MCZ Stage 1 assessment

Please let me know if you have any questions.

Kind regards,  
Laura

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MMO Reference: DCO/2016/00001  
Planning Inspectorate Reference: EN010080

14 December 2018

## **Annex B**

### **Planning Act 2008, Orsted Hornsea Project Three Limited, Proposed Hornsea Project Three Offshore Windfarm Order – In Principle Monitoring Plan**

The Marine Management Organisation (MMO) is an interested party for the examination of Development Consent Order (DCO) applications for Nationally Significant Infrastructure Projects in the marine area. The MMO has received notice of such an application for Hornsea Project Three Offshore Windfarm (Ref: EN010080).

Please find below the MMO's comments on the updated In Principle Monitoring Plan (IPMP) submitted by the Applicant for Deadline 1. Please note these are initial comments only and the MMO reserves the right to make further comment on this application throughout the examination process.

The MMO has an interest in this project because of its installation of up to 300 wind turbine generators and associated infrastructure within the marine area. The MMO has made an initial assessment of the application and has the following comments for your consideration:

#### **In Principle Monitoring Plan**

##### **1. General comments**

1.1. The MMO recommends that the post-construction monitoring timescales are set out clearly within the IPMP and explicitly include a requirement to carry out up to three years of post-construction monitoring with the duration specified for these surveys, unless otherwise agreed with the MMO following analysis of post-construction monitoring data.

1.2. The exact scope/extent/methodology for the proposed monitoring should be clearly set out in the IPMP and should not solely rely on the working of a provided link. Links can stop working overtime, and the MMO recommend therefore that more

detail is provided in the IPMP.

## 2. Shellfish

2.1. No site-specific monitoring has been proposed. Section 4.5.1.1 does state “Characterisation of the baseline environment through both survey data from the former Hornsea Zone and a desk-based literature review found the species assemblage of the Hornsea Three fish and shellfish study area to be typical for this region of the southern North Sea fish and shellfish study area”, which the MMO believe to be adequate. The MMO is content with the proposal, therefore no further changes are required.

## 3. Benthic ecology

3.1. The MMO does currently not believe that the proposed monitoring for benthic ecology is sufficient. The MMO recommend that the following changes are made:

3.2. The pre-construction benthic monitoring plan proposed comprises, and is restricted to, interpretation of information from geophysical surveys undertaken for engineering purposes within the array area and cable corridor to determine acoustic signatures synonymous with reef features and recovery of Annex I sandbanks. If reef signatures are identified these will be subject to further ground truthing in the form of remote and/or intrusive sampling to inform mitigation measures to avoid direct impacts. The MMO also recommend monitoring areas of known reef which are adjacent to the proposed works as although they may be directly avoided, sandwave clearance operations may secondarily impact any reef present through the formation of new sandbanks.

3.3. Where reefs are identified and are not mitigated for, post construction geophysical surveys will be undertaken to identify signatures with further ground truthing if signatures are confirmed. These surveys should be undertaken in areas where sandwave clearance activities may impact reef adjacent to the construction activities.

3.4. Post construction ‘benthic’ monitoring of Annex I sandbank recovery will be delivered through geophysical surveys within a representative number of locations within the North Norfolk Sandbanks and Saturn Reef and The Wash and North Norfolk Coast SACs and Cromer Shoals Chalk Beds MCZ. Whilst this provides information on the reformation of sandbank morphology, it will provide no information on the sediment composition and benthic communities. Whilst benthic communities associated with sandbanks may recover quickly, those more diverse communities associated with the troughs e.g. Sabellaria reef communities may not. Although avoidance of Annex I reef is considered, there is no consideration of monitoring potential smothering of reef adjacent to construction works due to reformation of sandbanks in these areas.



3.5. Post-construction survey of habitat loss, within designated areas, due to cable and scour protection is proposed using ROV to determine success of the cable protection and recolonization/recovery of the benthic communities. This should be supplemented with a preconstruction survey of these habitats, so that a pre-/post-construction comparison can be made.

3.6. Several links to reference sources are missing which made it difficult for the MMO to review the information provided. The MMO recommend that this information is provided separately.

#### 4. Fisheries Ecology

4.1. Section 4.5.1.4 states that no site-specific monitoring of fish resources is proposed, which was confirmed to be appropriate. Given the size of Hornsea Three array area however, and as the substrate is considered to be largely 'preferred' sandeel habitat, the MMO has requested that the Applicant undertakes Particle Size Analysis (PSA) data during the post construction benthic monitoring to allow the monitoring and assessment of sandeel habitat.

In response, the Applicant has highlighted that the IPMP includes pre- and post - construction monitoring of the seabed sediments within the Hornsea Three cable corridor to assess recovery rates following the cable installation activities such as sandwave clearance. The Applicant further highlighted that the monitoring in this area would be targeted at demonstrating recovery of the seabed, with sandwave clearance monitoring being of particular relevance to sandeels. The monitoring proposed would therefore achieve the same objective, and the Applicant is willing to include this in the IPMP.

The MMO is currently not able to provide comments on the above proposal. Once the updated IPMP has been provided to the MMO, we would be content to review the methodologies included for the monitoring of the recoverability of sandwave clearance and provide further comments on the proposal above.

#### 5. Coastal Processes

5.1. In section 3.1.1.1, a request was made by MMO for inclusion of nearshore monitoring of bathymetry where cable protection is applied. This will be undertaken using the baseline and post activity geophysical surveys (table 4.2). The MMO was unable to identify the exact scope/extent/methodology for the proposed monitoring as the link was not accessible. The MMO recommend that the scope, extend and methodology is clearly set out in the IPMP and not provided via a link.

#### 6. Underwater sound

6.1. Table 4.4 on page 9 states that "the approach will be to undertake monitoring to



validate the underwater noise modelling that underpins the impact assessment. Monitoring will only be undertaken if it is not possible to demonstrate that the existing evidence base does not provide appropriate validation at the time of drafting the plan”. The MMO advise that recent noise monitoring for Hornsea Project One demonstrated that the modelling undertaken for that project had significantly under predicted noise levels.

