

From: [Vicki James](#)
To: [Hornsea Project Three](#)
Subject: Hornsea Three offshore wind farm. Written questions response
Date: 14 January 2019 12:36:52
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[WDC_Hornsea3_PINs_ResponseWrittenQuestions_Jan2019.pdf](#)
[Written question papers requested from WDC.zip](#)

Dear Sir/ Madam,

Please find attached WDCs response to the Examining Authority's (ExA's) Further Written Questions and Requests for Information, issued 19th December, for Hornsea Three offshore wind farm.

Also attached are the papers requested as part of the questions.

Please don't hesitate to contact me if you have any queries.

Best wishes

Vicki

Vicki James
Policy officer

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Help us save New Zealand dolphins from extinction

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14th January 2019

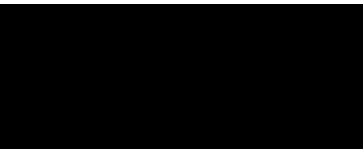
Dear Sir/ Madam,

Hornsea Offshore Wind Farm Project Three Application. WDC's Response to The Examining Authority's Further Written Questions and Requests for Information.

The table below sets out WDCs responses to the Examining Authority's (ExA's) Further Written Questions and Requests for Information, issued 19th December, for Hornsea Three offshore wind farm.

We are happy to meet to discuss any of these issues further.

Yours faithfully,



Vicki James.
Policy Officer.

Q2.2.66	<p>In [REP1-022] WDC have pointed out that the boat-based cetacean surveys are out of date, having been conducted between 2010 and 2013, and that no survey was undertaken along the export cable corridor. WDC also note that passive acoustic monitoring and aerial surveys, when the sea state is categorised as 3 or above, lead to acknowledged under recording and that SCANS data is only a snapshot with a 10 year interval. WDC concluded that the baseline survey had failed to detect representative numbers. The Applicant's response in [REP2-004] was that it was a scientifically robust methodology that was approved by the SNCB.</p> <p>Notwithstanding the Statements of Common Ground [REP1-218], [REP1-224] and [REP1-227], please can the Applicant explain how the baseline survey is representative having regard to the issues that WDC have raised.</p> <p>What other data are available that WDC consider ought to be included in the baseline analysis?</p> <p>Please provide copies of any publications you wish to rely upon in evidence that have not already been provided.</p> <p><i>WDC Response</i></p> <p>Having read the Applicants response to WDC's concerns regarding the baseline survey methodology in [REP2-004], our position as detailed in our Written representation [REP1-022] remains the same.</p> <p>WDC are not aware of any alternative data sources available to the Applicant that can plug the gap of reliable baseline data. The only way to obtain reliable baseline data for the assessment would be for the Applicant to undertake additional aerial surveys of the area using a suitable, robust methodology. However, we do recognise the implications of this to the Applicant and the Project.</p>
Q2.2.68	<p>The Deadline 1 response [REP1-022] from WDC has highlighted a number of papers suggesting that pile driving can cause long term displacement of harbour porpoise from feeding areas.</p> <p>To what extent are these studies comparable with the present situation in terms of the duration and intensity of piling and prey availability?</p> <p>Do they enable valid comparisons to be drawn?</p> <p>Please can WDC submit copies of the following papers: Synder & Kaiser (2009), Teilmann & Carstensen (2012), Wisniewska et al (2018), Carstensen et al (2006) and Brandt et al (2011).</p>

The Applicant has challenged WDC's interpretation of the scientific literature in [REP2-004] and has highlighted a number of papers to the contrary. How does WDC view the empirical balance of evidence in the light of the additional papers that have been cited?

Please can the Applicant submit copies of the following papers: Scheidat et al (2011), Brandt et al (2018) and Nabe-Nielsen et al (2018).

WDC Response

Copies of the requested papers have been submitted with this response.

The papers referenced in WDC's Deadline 1 response [REP1-022] demonstrate the impacts of pile driving on harbour porpoise, the majority of these studies have been undertaken in the German part of the North Sea. Whilst the some environmental conditions (e.g. bathymetry, sea bed geology) will vary between projects, the studies have been undertaken in similar areas of the North Sea.

Additionally the offshore wind farms in the studies use the same foundation type and construction techniques – although the hammer energy required for Hornsea Three is higher than in these studies with up to 5,000 kJ required, which as modelled in the ES will produce a higher noise level and impact a greater area and potentially a higher number of harbour porpoise, compared to the studies referenced by WDC.

These studies are also based on the same harbour porpoise population that are included in the Hornsea Project Three assessment. Due to these factors these studies are very suitable for comparison and ensuring reliable comparisons to be drawn, which is why WDC included the information from these studies in the Deadline 1 response [REP1-022].

WDC is aware of the studies that The Applicant is referring to some of which are also cited in WDC's Deadline 1 response [REP1-022]. These studies demonstrate not only that pile driving to cause behavioural changes in harbour porpoises which leave the area during construction and in some instances did not later return to their usual numbers, but also the effectiveness of bubble curtains. WDC stands by its position as detailed in the Deadline 1 response as it is based on the direct evidence and conclusions of these studies. We strongly disagree with the Applicants interpretations. The Applicant has not taken into account that there is a wide variety in return times of harbour porpoises return to an area after pile driving, if they return at all and it is unknown if they use the area in the same way. Additionally the Applicant has acknowledged in the Environmental Statement that harbour porpoises will be excluded from the site for the duration of the pile-driving phases.

The Applicant claims that the study of harbour porpoise foraging are misleading, WDC disagree with this and the work of the study has been further supported by additional scientific publications (Wisniewska et al., 2018), a copy of which has been submitted along with this response.

Q2.2.69	<p>In [REP1-022] WDC highlighted a concern about the impact of increased vessel activity throughout the life of the development because increased vessel noise can interrupt harbour porpoise foraging behaviour and echolocation, which can lead to significantly fewer prey capture attempts. Please can WDC submit a copy of Wisniewska et al (2018).</p> <p>In [REP2-004] the Applicant has suggested a methodology for the assessment of vessel movements and the associated ES conclusions have been agreed in the SoCG [REP1-218]. Does WDC concur with this view?</p> <p>Do the findings of Wisniewska et al (2018) change what NE has concluded in the SoCG?</p> <p><i>WDC Response</i> Copies of the requested papers have been sent with this response. WDC agrees with the proposed assessment for vessel movements.</p>
Q2.2.78	<p>The Applicant has submitted a Site Integrity Plan for the Southern North Sea SCI [REP1-181] that would be secured via Condition 13(5) in the generation assets DML and 14(5) in the transmission assets DML. The Applicant goes on to state [REP2-005] that the final assessment of the effectiveness of the various mitigation options can only be carried out once the final design is decided. The Applicant notes that the MMO is now satisfied that this approach will provide appropriate control measures to mitigate effects on marine mammals when used alongside the Marine Mammal Monitoring Plan which would also be secured via the dDCO.</p> <p>Is there now sufficient detail to address your concerns on this matter? If not what changes do you suggest?</p> <p><i>WDC Response</i> WDC welcome the inclusion of the Site Integrity Plan (SIP). WDC were sent a copy of the SIP for comment by the Applicant, the response is in annex 1, and includes our full comments on the SIP. In summary, WDC are pleased to see the SIP and recognise that there is a lack of detail on the final project design which makes it difficult to commit to specific mitigation measures. However, there is a lack of commitment to use proven mitigation measures, or an assessment of the effectiveness of mitigation measures proposed. As a result the SIP is little more than a commitment to use mitigation methods and therefore cannot remove all reasonable scientific doubt as to the effects of the project on the SNS SCI.</p> <p>WDC's recommendations on what to include in the SIP for it to address our concerns, and ensure no adverse effect on site integrity beyond scientific doubt, are in the SIP response - annex 1</p>
Q2.2.81	<p>You stated in [REP1-022] that the CEA did not consider concurrent piling at two locations and that you do not agree that minor adverse impacts would result.</p>

	<p>The worst case scenario as set out in paragraph 4.13.1.5 of the ES [APP-064] is based on two concurrent piling events. Please clarify your position in the light of this.</p> <p>WDC Response Paragraph 4.13.1.5 in the ES [APP-064] is just a statement that during the construction of Hornsea Project Three, that cumulative impacts of piling at more than one location have been considered. In the ES there is no detail of the methodology used, the locations considered, or the results of this assessment. As a result there is no information provided to demonstrate the Applicants claims that there will only be minor adverse impacts from concurrent piling.</p>
Q2.2.82	<p>In [REP1-022] you stated that East Anglia One North, East Anglia Two and Norfolk Boreas should have been included in the in combination assessment of windfarm cetacean impacts. In [REP2- 005] the Applicant has highlighted the fact that no detailed information is available beyond the scoping reports and that this would not facilitate any meaningful consideration of their impact. Bearing in mind the above and the fact that they remain Tier 3 projects, do you still maintain this position?</p> <p>What other information would be available to support an in combination assessment?</p> <p>Please provide copies of any publications you wish to rely upon in evidence that have not already been provided.</p> <p>WDC Response WDC recommended that East Anglia One North, East Anglia Two and Norfolk Boreas should be screened into the cumulative assessment as we expected that more information on construction periods would be available. As acknowledged by the Applicant there was information available in the Scoping reports and these projects would fall into Tier 3 assessment, despite this these developments weren't included by the Applicant in the in-combination assessment.</p> <p>Additional material is available for Norfolk Boreas in Chapter 5 of the PEIR report, which are available from the project website at https://corporate.vattenfall.co.uk/projects/wind-energy-projects/vattenfall-in-norfolk/norfolkboreas/ The Applicant has stated that if additional information for these developments became publicly available within the examination timeframe, then the assessment would be updated accordingly [REP2-004]. WDC request that this is undertaken.</p>

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Senior Environment & Consents Specialist,
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18th December 2018

Dear Felicity,

Hornsea Project Three Offshore Wind Farm In-Principle Southern North Sea SCI Site Integrity Plan

WDC welcome the opportunity to comment on the draft Site Integrity Plan (SIP). We appreciate the commitment that Ørsted is making to use mitigation measures to ensure no Adverse Effect on Integrity (AEoI) on the Southern North Sea SCI (SNS SCI) during the construction of Hornsea Project Three offshore wind farm. We also appreciate that there is a lack of detail on the final project design which makes it difficult to commit to specific mitigation measures. However, there is still a large degree of uncertainty on if the use of the Site Integrity Plan (SIP) can conclude no adverse effect on site integrity beyond scientific doubt.

We recognise that there is a lack of guidance from SNCBs on what to include in a SIP, however we are concerned that the SIP for Hornsea Project Three does not contain a commitment to proven mitigation methods or an assessment of the effectiveness of these measures. Currently the SIP is little more than a commitment to use mitigation methods and therefore cannot remove all reasonable scientific doubt as to the effects of the project on the SNS SCI.

The SIP currently includes embedded mitigation measures (section 6.1), from the JNCC guidance for minimising the risk of injury to marine mammals from piling noise (JNCC, 2010). Whilst we recognise that currently these are the only guidelines available to developers to use to minimise the impacts of piling activity on marine mammals, it is widely known that these guidelines are outdated, and do not use the latest scientific evidence. The in-situ methods in the JNCC guidelines have been widely criticised as arbitrary and with a lack of supportive evidence (Wright and Cosentino, 2015). Additionally the guidelines have not been updated for a number of years and therefore do not include the latest and increasing body of scientific data of the impacts of noise on marine mammals (Wright and Cosentino, 2015). We do not agree that the embedded mitigation will reduce the risk of injury to any marine mammals located within a few metres of the pile during installation to negligible levels.

These embedded mitigation methods are not suitable for ensuring no AEoI. However there are proven mitigation measures which have shown that the use of bubble curtains during pile driving activities can reduce the disturbance area on harbour porpoises from ~15 km to ~5 km compared to piling with no mitigation, totalling ~90% reduction in harbour porpoise disturbance area (Nehls et al., 2016). They also can reduce the range at which pile driving can be heard by harbour porpoises (Brandt et al., 2018) and may reduce temporary habitat loss and risk of hearing loss in harbour porpoises (Dähne et al., 2017). See WDC's Written Representation for full details on mitigation methods.

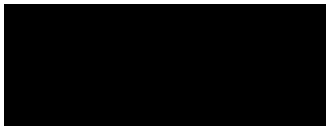
We recommend that the SIP includes a commitment to using proven mitigation methods. Additionally when the SIP is designed post-consent it should include modelling of the effectiveness of proposed methods, including studies demonstrating how the implementation of mitigation will reduce underwater noise disturbance on marine mammals.

WDC request to be involved and consulted on the design of the SIP post-consent. Currently table 2.1 in the In-Principle Southern North Sea SCI Site Integrity Plan outlines engagement with WDC as information providing rather than consultation.

There are currently numerous marine mammal mitigation documents for Hornsea Project Three e.g. piling MMMP, UXO MMMP, SIP. It would be more effective to look at mitigation requirements in a more integrated approach.

We are happy to meet to discuss any of these comments further.

Yours sincerely,



Vicki James

Policy Officer

References

- Brandt, M., Dragon, A., Diederichs, A., Bellmann, M., Wahl, V., Piper, W., Nabe-Nielsen, J., Nehls, G., 2018. Disturbance of harbour porpoises during construction of the first seven offshore wind farms in Germany. *Mar. Ecol. Prog. Ser.* 596, 213–232. <https://doi.org/10.3354/meps12560>
- Dähne, M., Tougaard, J., Carstensen, J., Rose, A., Nabe-Nielsen, J., 2017. Bubble curtains attenuate noise from offshore wind farm construction and reduce temporary habitat loss for harbour porpoises. *Mar. Ecol. Prog. Ser.* 580, 221–237. <https://doi.org/10.3354/meps12257>
- JNCC, 2010. Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise 14.
- Nehls, G., Rose, A., Diederichs, A., Bellmann, M., Pehlke, H., 2016. Noise Mitigation During Pile Driving Efficiently Reduces Disturbance of Marine Mammals, in: Popper, A.N., Hawkins, A. (Eds.), *The Effects of Noise on Aquatic Life II*. Springer New York, New York, NY, pp. 755–762. https://doi.org/10.1007/978-1-4939-2981-8_92
- Wright, A.J., Cosentino, A.M., 2015. JNCC guidelines for minimising the risk of injury and disturbance to marine mammals from seismic surveys: We can do better. *Mar. Pollut. Bull.* 100, 231–239. <https://doi.org/10.1016/j.marpolbul.2015.08.045>