



Scottish Natural Heritage
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Sophia Irvine
Marine Scotland – Marine Planning and Policy
375 Victoria Road
ABERDEEN
AB11 9DB

Date 19 February 2020
Our ref: CNS REN OSWF Neart na Gaoithe – post application

By email only @ ms.marinerenewables@gov.scot

Dear Sophia

**Neart na Gaoithe Offshore Wind Farm
Piling Strategy and UXO Campaign - Underwater Noise Considerations – EPS Advice**

Thank you for granting an extension to the consultation on the piling strategy. As you are aware a meeting was held on 12th February 2020 to discuss both the piling strategy and unexploded ordnance survey, removal and mitigation. This letter provides advice from SNH on both of these aspects.

Unexploded Ordnance (UXO)

Our discussions centred around two aspects:

- Underwater Noise Modelling
- Mitigation to reduce injury / disturbance to cetaceans.

As explained at the meeting, surveys to review the UXO targets are still ongoing with completion by the end of March and proposed clearance in March / April / May to enable the commencement of foundations at the start of June 2020.

Underwater Noise Modelling

There was discussion regarding the equation used to assess impacts and a comparison to the modelling equation used for Beatrice. We understand that the choice of model can significantly alter the modelled output. Currently, there is no prescription with regard to the model used, and the inference in the explanatory note (document reference: NNG-PEL-ECF-MEM-0001) / meeting was that the NNG modelling is correct and all others were wrong.

This however is not our view – all models may be ‘wrong’ and this is why we have requested in-situ noise measurements to inform assessments. In the Neart na Gaoithe explanatory note the predictions are greater than we have seen before, therefore we recommend that if the lower estimates (using the Beatrice modelling approach) are to be used then we would need to understand how this fits in with the higher predictions provided with justification on the approach provided..

In addition, although the mitigation proposed follows previous approaches/logic in that active mitigation is employed to deter animals from the injury zone pre UXO detonation, we have concerns on this approach for the following reasons;

- The pre-detonation process seems overly long, there is no reason for example to use the MMO for an hour before starting the ADD as there is no risk of injury from the ADD. The use of MMO and ADD could be conducted at the same time. However, if there is an operational reason for carrying out the MMO searches prior to starting the ADD (e.g. relating to moving vessels away from the site before commencing ADD / soft start), then we are content for this to happen sequentially.
- There appears to be large gaps in between the charge weights (20 minutes to half an hour (e.g. this is in comparison to our experience with Moray East where it was only 5 minutes)), and the rationale for this is not clear to us. In the event of a UXO with a charge weight of >250kg the mitigation period as suggested could run to; 1hr MMO, then a further 90 minutes of ADD activation then a further 180 minutes of soft start charges; a total of 5.5 hours.
- The ADD will not 'guarantee' animals will be cleared out beyond 7.5 km. Although there is a wealth of evidence to support ADD displacement, it has not been proven that it is 100% effective at extended ranges. Harbour porpoise densities have been shown to decrease, in some instances there is a significant decrease, but as with any behavioural reactions, not all animals choose to move. Therefore, our view is that the ADD is a useful deterrent pre-detonation, but it does not guarantee the zone out to 7.5 km is cleared. Therefore, where there are predicted impacts that extend beyond the 1km MMO mitigation, we feel a residual risk of injury to marine mammals' remains, and this risk needs to be assessed in terms of identifying the probability that animals may be in the predicted impact zones.

Use of ADD

We advise that deployment of an ADD for an hour is the maximum time needed, as we do not consider extended periods of time helpful as the continued movement away of animals over time has not been established.

The use of an ADD is likely to result in useful deterrence, and where the impact injury zones are large, this is warranted.

In piling mitigation, the use of an ADD for 15 minutes appears to be the maximum needed, for UXO mitigation a longer time period might be useful, because the PTS zones are so much larger. This will not have an unfavourable effect on cetacean populations.

UXO Mitigation

We advise that if mitigation for the predicted impact zones is unlikely to be effective, then consideration should be given to noise reduction at source. There is currently insufficient justification on this aspect within the report submitted and as discussed at the meeting.

There are several methods which could be considered further:

- The deflagration method based on our understanding has been used by the Military for decades. There is preliminary information coming out of the work that Loughborough and NPL are doing (BEIS SEA project) which is showing a significant decrease in noise levels. Our understanding is that there needs to be a certain level of skill involved in knowing where to place the shape charge in order to neutralise the UXO. Further clarification around the concerns of this method would be helpful.

- Bubble curtain use is in our view useful in certain situations. We understand that the depths involved in the site / current regime may be too deep to be fully effective. We are less clear whether this is also the case on the cable route. We would therefore need to see this considered in more detail for the potential UXO locations and charge weights.

We highlight that a reduction of only 6dB would result in a halving of the impact radius (Verfuss, 2019).

SNH Advice

We advise that further noise modelling is not required. However, we do wish to see further discussion and justification of noise abatement solutions.

If, after further consideration, noise abatement solutions are not feasible, we advise that an EPS licence for injury and disturbance will be required. To inform the EPS licence we would require the following:

- The predicted number of affected individuals.
- ADD used at same time as MMO mitigation.
- ADD duration – between 30 minutes and one hour.
- Soft start charges – up to a max of 250g, with a 5 minute gap in between.
- Additional note with justification of why neither deflagration techniques nor bubble curtains can be used.

In addition, it was suggested and supported that Marine Scotland could issue an EPS licence for UXO clearance of a maximum of 50 targets up to 200kg (or whatever size is acceptable with proposed mitigation). If larger targets were found, these would then need to be considered and dealt with separately.

Piling strategy

Drilling noise / duration

We had previously raised concerns over cumulative noise impacts based on a predicted noise level of 195dB re 1µPa (rms) for the drilling activity over the estimated extended durations (36 hrs per substructure location). At the meeting, we were able to discuss the equipment in more detail, and it seems that the drilling activity is more akin to the submersible example given, and therefore the levels are likely to be significantly lower than 195dB re 1µPa (rms).

The drill is lowered in to the hole and is tethered to the vessel, there is a tube in the water column, where the control umbilical is, through which the pulverised rock is dispersed. The majority of the noise is therefore sub-seabed surface. We are therefore content that the noise levels will not be at levels that would cause auditory injury. We still advise on the need for an EPS licence to cover disturbance aspects of the activity.

The ECOMMAS array (broadband noise recorder), may provide some measurements of the noise levels of the drill. Although the sensors here are duty cycled, the activity will be ongoing for sufficient time to be picked up. We recommend that the data are analysed with this in mind.

Mitigation

Within the meeting we were told that it was highly likely that only one location would now be required to be drill-drive-drill. The piling mitigation therefore may only be required for this one location.

Consistent with other projects (and our scoping advice in 2017), we advise that the pre-piling mitigation is intended to mitigate the instantaneous injury risk. The range should be calculated on the maximum hammer energy to present the worst case.

We highlight that the length of time for the ADD proposed here is based on the cumulative PTS range estimated for minke whale. As this will only likely to be required at one location, we do not consider that a cumulative effect will occur, however, we would still recommend that the ADD is used for a period up to 15 minutes before the soft start and impact piling commences.

Breaks in activity - it is suggested that the ADD should be redeployed. We do not agree this is necessary. This is due to the likely time delay before animals return to the area after a noisy activity has ceased. From the Moray Firth monitoring we understand that porpoise can return after the ADD (alone) has ceased after ~ 2hrs, but as there was also piling involved, we have previously recommended that no ADD is necessary for a break of under 6 hours.

Please do not hesitate to contact Karen Taylor or myself, if any aspect of this letter requires further clarification.

Yours sincerely

Erica Knott
Marine Sustainability Manager
Sustainable Coasts and Seas.

Irvine S (Sophia)

From: Fiona Read <fiona.read@whales.org>
Sent: 17 December 2019 19:21
To: MS Marine Renewables
Cc: Sarah Dolman
Subject: RE: Neart na Gaoithe - Piling Strategy Consultation - Response required by 21 January 2020

Dear Sophia,

Thank you for including WDC in the consultation. Due to limited capacity, WDC will not be responding to the present consultation.

Best wishes,

Fiona

Fiona Read
Policy officer
End Bycatch

WDC, Whale and Dolphin Conservation
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whales.org

**PROTECTING WHALES AND
DOLPHINS FOR OVER 30 YEARS**

From: MS.MarineRenewables@gov.scot [mailto:MS.MarineRenewables@gov.scot]
Sent: 17 December 2019 11:40
To: marineenergy@nature.scot; Sarah Dolman; Fiona Read; enquiries@rtc.org.uk; prs@scotborders.gov.uk
Cc: jessica.wilson@gov.scot
Subject: Neart na Gaoithe - Piling Strategy Consultation - Response required by 21 January 2020

CAUTION: This email originated from outside of the organization.

Dear Sir/Madam,

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

MARINE (SCOTLAND) ACT 2010, PART 4 MARINE LICENSING

The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017

Neart na Gaoithe Offshore Wind Limited ("NnGOWL"), having received consent under the above legislation, has submitted to Marine Scotland Licensing Operations Team ("MS-LOT") a Piling Strategy in order to satisfy condition 11 of the Section 36 consent (as varied), condition 3.2.2.9 of the Offshore Transmission Works marine licence (06678/19/1) and condition 3.2.2.10 of the Offshore Generating Station marine licence (06677/19/0).

The marine licences, section 36, decision notices and conditions, as well as other relevant documents can be found on our website, following the link: <http://marine.gov.scot/ml/neart-na-gaoithe-offshore-windfarm-revised-design>

The conditions state that a Piling Strategy must be submitted to the Licensing Authority for their written approval following consultation with the Scottish Natural Heritage, River Tweed Commission, Whale and Dolphin Conservation and the Scottish Borders Council.

We would appreciate any comments you may have on the proposed Piling Strategy in order to determine whether it is fit for purpose for the Scottish Ministers approval.

If you wish to submit any comments, please send them to MS.MarineRenewables@gov.scot before the **21 January 2020**. If you are unable to meet this deadline please contact MS-LOT on receipt of this email.

Kind regards,

Sophia

Sophia Irvine
Marine Licensing Casework Officer
Marine Scotland - Marine Planning & Policy

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