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MEMO

DCRM Number:	WYN-HZPSP-MRN-CLA-00001
To:	Karen Perrow
From:	Tei Ho
Date:	8th Feb 2019
Subject:	Marine Licence Response to RfI

Additional Requirements or Controls			
LISTED READERS ONLY		LEGALLY PRIVILEGED	

Comments:

Colour Coding

	Responded by 8th Feb
	To be responded by 22nd Feb or 1st March, subject to DCO progress

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Ref.	Request for Information from NRW	HNP Response
1	Can HNP confirm if the vessel movements during construction and operation included within the Marine Licence application (received June 2018) are still correct. If not, can HNP provide further details on the impact to the worst-case scenario modelling in the Environmental statement (ES) and shadow Habitats Regulations Assessment (sHRA) particularly on ecological receptors, e.g. if any changes could lead to an increased impact on marine mammals, than that considered in the sHRA submitted to support the Marine Licence application. [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Request for non material change: Marine Vessel Movements.* *Link [AS-021]* *Section 2.4 provides a review of the assessments on the marine environment.*
2	Can HNP confirm if Air Quality modelling for the marine vessel movements will be updated to take into consideration any proposed increased vessel movements? If so how will the sHRA be updated, particularly concerning potential additive effects on Cemlyn Bay SAC/SSSI? [Note: x-ref to NRW Advisory letter dated 24/08/2018 para 4.1.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO* *Request for non-material change: Marine Vessel Movements. Link [AS-021].* *Section 2.4 provides a review of the assessments on the marine environment.*
3	Consultee comments: "There is a high degree of uncertainty about what materials can be derived on site and if they can't whether they will be delivered via sea or road. The Project description proports to provide the information within section 2.14 *et sequel* but does not include a summary." and "The basis for the assessment has been made on 60 – 80% of deliveries being made from sea, but with the level of uncertainty indicated above it is unclear whether a total figure has been calculated of the hypothetical maximum number of deliveries and what therefore may entail the worst case of 80%. This is in contrast to the calculations for the dredged materials". Can HNP please provide comment and any clarity on these issues.	Regarding estimation of number of deliveries via sea, Section 15.4.20 of ES Volume D – WNDA Development D15 – Shipping and navigation provides the expected number of each type of vessel: "*There would be approximately 1,571 bulk vessels and 330 Abnormal Indivisible Load barges, plus approximately 825 barges for both transporting dredge material to Disposal Site and importing rock material."*

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4	Can HNP provide clarification on how the 10 nautical mile/hour speed limit (used as mitigation to reduce impacts on marine mammals to inform the sHRA Appropriate Assessment) will be enforced and over what spatial extent the speed restriction will be applied? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	The matter is considered as part of implementation. Horizon intends to apply to become a Statutory Harbour Authority (SHA). The extent of SHA is shown on Marine Licence drawing WN0907-HZCON-LAP-DRG-00002 Rev 2.0 Horizon intends to appoint an experienced specialist contractor to manage the operations of the port and enforce speed limit. A Port Security Plan will be developed in conjunction with the contractor following the completion of the Port Facility Security Assessment (PFSA) in accordance with the ISPS code and the issue of the PFSA report by the Department for Transport Maritime Security Division.

Ref.	Request for Information from NRW	HNP Response
5	The Joint Nature Conservancy Council (JNCC) protocol for minimising the risk of injury to marine mammals from piling noise has been applied in the sHRA to all underwater noise generating activities. Can HNP supply a more detailed site-specific mitigation plan for managing the underwater noise effects on marine mammals to provide confidence that the reduction and mitigation measures are fit for purpose and achievable given the multiple types of underwater noise generating activities that are proposed at multiple locations during the construction phase, not just piling. Can HNP confirm the spatial extent of the marine mammal mitigation zones (sHRA pg 14) and how these relate spatially with the noise modelling contours? Given the current uncertainties surrounding the construction phase details, an adaptive monitoring and management approach to the marine mammal noise mitigation over the construction phase would be advisable. [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	*Submission for ML by 1st March 2019* *Marine Mammal Mitigation Plan drafted and is being reviewed.*
6	Can HNP confirm if the outfall cofferdam includes both piling and blasting and if the installation detail has been considered fully in the underwater noise modelling and sHRA for effects on marine mammals? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Similar response prepared as part of the Deadline 2 response to FWQ 5.0.22 (blasting) and Q8.0.14 (piling)* *Link*

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7	Can HNP clarify how working hours have been considered in the sHRA assessment in relation to the deployment of marine mammal observers as part of the marine mammal mitigation approach? Will HNP's proposals to change working hours (submitted to DCO but not as part of the Marine Licence application) lead to any changes in HNP's strategy for the marine mammal mitigation? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	*Submission for ML by 1st March 2019* *Marine Mammal Mitigation Plan drafted and is being reviewed.*
8	Can HNP confirm that the application of the National Marine Fisheries Service 2018 Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Dept. of Commer., NOAA. NOAA Technical Memorandum NMFS-OPR-59, 167 p. noise thresholds does not lead to a greater spatial extent for the Permanent Threshold Shift modelling for the marine mammals, of the worst case scenario noise generating activity, than that presented in the sHRA? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO Examination at Deadline 3.* *Refer to Appendix D Underwater Noise Modelling of the following:* Link
9	Can HNP confirm what background suspended solids levels have been used for the Holyhead North disposal area modelling and supply the suspended solids modelling output plots depicting the 5 km radius around Holyhead north disposal used in the sHRA, to demonstrate that the suspended solids concentration will have diminished to background levels 1 or 3 hours after disposal?	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO.* *Appendix D13-12 [APP-230] has modelling outputs for disposal site as well as modelling inputs and assumptions.*

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10	Does HNP anticipate that there will be any effect from the tidal kite installation in Holyhead Deep on tidal flow and dispersal modelling at Holyhead North disposal site? Can HNP confirm if this has been considered in the model used?	*The modelling was undertaken without the tidal kite installation in Holyhead Deep. The assessment of the kite installation concluded that perceptible changes on the flow regime would be unforeseeable.*

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Ref.	Request for Information from NRW	HNP Response
11	Can HNP provide further clarification of the lighting design detailed parameters that have been incorporated into the model used to inform the sHRA? What height were the floodlights that were modelled? Chapter 9 - Modelling of indicative light spill during the construction of the MOLF, breakwaters and cooling water intake = 0.1 lux light spill which typically would not extend more than 50 m over the water area from the works - no reference is provided for this evidence. Figure 10-6 page 698 depicts the modelled construction light contours and section 10.3.79 page 695 repeats text in chapter 9. From chapter 9 - For the operation of the MOLF a 0.1 lux contour would extend no more than 125 m across the water at 3 specific locations. Typically, the 0.1 lux extends no more than 100 m across the water when the cranes are not in use - again no reference is provided to find the supporting evidence. Figure 10-11 page 713 includes these lighting contours for the operational phase but doesn't include the Anglesey Terns SPA and the North Anglesey Marine SCI (SPA/SCI) boundaries - no total area (km^2) of affected SPA/SCI is provided. We request that HNP provide the area in km^2 of the total modelled effected area within the protected site boundaries, supported by maps of the total predicted area affected by increased lighting during the construction phase and operational phase. Can HNP confirm how lighting from dredgers and vessels has been considered in addition to the sources of lighting described above predicted to occur within the SPA/SCI? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.5 to 3.11.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO Examination at Deadline 3.* *Refer to the following:* Link

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12	Can HNP submit copies of the Code of Construction Practice and the Marine sub Code of Construction Practice documents to be considered as part of the Marine Licence Application? [Note: x-ref to NRW Advisory letter dated 24/08/2018 para 2.1.] [Note: x-ref to NRW Advisory letter dated 24/08/2018 para 8.1.]	*Submission for ML by 22nd Feb 2019* *Updates to the CoCP are being submitted into examination at Deadline 5*
13	Can HNP provide the report on choughs (Wylfa Newydd Project 6.4.47 ES Volume D9-14 - Chough Baseline Report) that was included in the DCO application?	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO. Addendum to 2018 Chough baseline report [REP3-046] submitted at Deadline 3*
14	We understand that HNP have undertaken further tern tracking work in 2018 alongside your tern breeding observations work. Please provide this information to NRW Permitting Service to inform our assessment and ensure that it takes account of the best available information. [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.5 to 3.11.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Tern tracking report* *Addendum to Seabird Baseline Report - Tern Tracking, Ref* WYN-JAC-PAC-TEC-00024 Also submitted for EP

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15	Can HNP provide further details of the importance of the area of sea affected by the Holyhead North disposal area for foraging Terns, Manx shearwaters, puffins, fulmars, guillemots and gannets? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.5 to 3.11.]	Following the approach agreed with NRW (and as recommended in SNH guidance – SNH, 2014 [Shadow HRA reference RD298]), the potential connectivity of breeding seabird species from other SPAs (or Ramsar sites) with the Disposal Site was established using foraging range information for the species in question (most commonly the mean maximum foraging range, as given in Thaxter *et al.,* 2012 [RD330]). *All* breeding seabird species that were qualifying features of SPAs were included in the assessment undertaken in the Shadow HRA, if they were identified as having connectivity to the Disposal Site on the basis of foraging range. Therefore, the inclusion of breeding seabird species in the Shadow HRA was independent of the survey data collection (although it should be noted that breeding season seabird survey data were accessed for (part of) the Disposal Site and the associated Project Zone of Influence (ZOI)).

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16	Can HNP provide visual representations to show the impact of the marine works on the landscape and seascape? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 13.1 and 13.2.]	Photos and video of CGI 3D visualisation is published on official Horizon website below. https://www.horizonnuclearpower.com/media-resources Copies can be requested from the official source below. mediaenquiries@horizonnuclearpower.com

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17	One respondent suggested the use of a “Mulberry Harbour”, i.e. a non-permanent floating harbour arrangement that could be utilised as needed and removed at the end of the works as an alternative to permanent harbour structures proposed in the application. Can HNP comment on whether this scenario was considered in the optioneering process?	The design of MOLF had to consider extreme weathers (e.g. 1 in 100 years storms). In addition to the expected 10+ years construction duration of the project, Paragraph 5.2.5 of the Code of Operational Practice also secures the function of the MOLF and Breakwater post-construction where it is proposed that the MOLF will be made available to be used for the transportation of bulk components, if required during the operational stage. A temporary floating harbour is considered unsuitable for such long term needs. The actual Mulberry Harbour operated for approximately 10 months and some parts of it were severely damaged and abandoned after storms.

Ref.	Request for Information from NRW	HNP Response
18	The construction of the MOLF, breakwaters and intake dredging has been estimated by HNP to lead to the permanent loss of 0.305 km^2 (including areas to be dredged) at the WNDA. However, this figure doesn't appear to include loss of habitat under the "temporary structures" such as the lay by berth, barge berth and access ramp. The installation and subsequent removal of the construction sewage pipe has also not been included in these calculations. In addition, it is not clear if the proposed shore protection footprint and mooring dolphins also need to be added to this figure. Can HNP provide reassurance that that the 0.305 km^2 quoted in the sHRA as area of SPA/SCI to be lost/physically damaged is the realistic worst-case scenario? Can HNP provide a figure illustrating the worst-case scenario of the area within the protected site boundaries to be lost? [Note: x-ref to NRW Advisory letter dated 24/08/2018 para 5.3c).]	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO.* *The response to this forms our response to NRWs Written Reps [REP3-035]* *Sections 7.10 and 7.73 provides the assessment of cumulative loss on benthic habitats.*
19	Consultee comment on Project Description & Schedule of Activities document ref ML-PLD-01-PDR: **"Table 1-2 (Project Description & Schedule of Activities ref ML-PLD-01-PDR) appears to indicate that the Temporary Causeway to the western breakwater will be operational at the same time as the Layby Berth is to be constructed and operational. This is not clear as they appear to occupy the same spatial footprint."** Can HNP describe timings and spatial footprint of the structures mentioned in the text and make comment?	*Some construction work on the foundation of the layby berth is expected to commence at the same time as the temporary causeway, hence the perceived appearance of overlapping. Layby berth is expected to be operational after temporary causeway is removed.*

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20	Can HNP provide construction and timetable details on the Fish Recovery and Return (FRR) system, particularly in respect to the construction and timetable of the MOLF? Drawing WN0907-HZCON-LAP-DRG-000039 Rev 2.0 shows that the FRR and the MOLF structures overlap. From the Schedule of Activities document (ML-PLD-01-PDR) Table 1-2 the FRR is scheduled to begin construction at month 48, after the MOLF Bulk Quay and MOLF Roll-on-Roll-off structures have been constructed and commissioned (Operational status anticipated at month 30).	While a part of the FRR runs through the reclaimed area adjacent to the MOLF, it is largely away from the loading area of the MOLF. In addition, the nature of construction of this part of FRR is essentially laying a pipe. Interference is expected to be minimum. Detailed construction programme will be developed in due time.
21	Can HNP provide clarification that all required new surface water outfall structures required during construction to the marine environment are included in the Marine Licence application? From a review of Figure 3-7 in the EPR Construction Water Discharge permit application, discharge points WP2 and WA2 appear to not be included in the Marine Licence application and WCD1 (intake bund cofferdam dewatering outfall) appear in different locations. Can HNP confirm to NRW Permitting Service the location of the cofferdam dewatering structures and where the resultant discharges have been modelled? [Note: x-ref to NRW Advisory letter dated 24/08/2018 para 3.5b).]	WP2 is shown on ML drawing WN0907-HZCON-LAP-DRG-00011 Rev 2.0. WA2 is above MHWS. WCD1 (and WCD2 for the outfall cofferdam) are expected to be flexible pipelines or similar placed over the cofferdams for ongoing dewatering possibly through pumping. Can NRW advise whether further details need to be included in ML?
22	Can HNP supply any further details to NRW Permitting Service of the proposed marine enhancement measures to be located within the SPA and SCI? [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 6.1 to 6.4.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO. Detailed technical report submitted at Deadline 4 [Link]* *to outline the proposed marine enhancement measures a long with an options appraisal and justification.*

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23	With regards to the sHRA – Appendix L, please provide an up to date National Vegetation Classification (NVC) map of the habitats present within the Shingle ridge community interest feature of Cemlyn Bay SAC. This question has already been asked in the EPR Combustion Installation permit application Schedule 5. Please could you also supply the response formally to the marine licence.	*Note uploaded to Sharepoint on 8th Feb 2019* *Information provided in response to Schedule 5 EPR Combustion Installation Permit application.*
24	Please provide justification for the use of the less precautionary critical load for Nitrogen deposition at Cemlyn Bay SAC of 20KgN/ha/year used in table 7-26 p371 of the sHRA (Appendix L) instead of the 8KgN/ha/year used in Table 26 of Appendix I, p79. This question has already been asked in the EPR Combustion Installation permit application Schedule 5. Please could you also supply the response formally to the marine licence. [Note: x-ref to NRW Advisory letter dated 24/08/2018 para 4.1.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Information provided in response to Schedule 5 EPR Combustion Installation Permit application.*

25	The cooling water discharge and proposed marine works are located within the Anglesey Terns SPA and the North Anglesey Marine SCI. With regards to the predicted impacts on fish (as key prey items for the four species of terns, harbour porpoise and bottlenose dolphins and other relevant interest features of Natura 2000 sites) there has been no consideration of the potential effects of the creation of a sheltered bay as the result of the proposed breakwaters. This has the potential to increase the use of the sheltered area by key fish species which could result in higher entrapment rates than predicted by the modelling. In addition, there is also a risk that large amounts of shoaling fish, including sandeels, sprats and herring (key prey items for the interest features) could be herded into the area behind the proposed breakwaters by predators. Under certain weather conditions and at certain times of the year this could also lead to increased entrapment rates of these key prey species. In relation to above please: • Confirm how the modelling has been validated to take into consideration these uncertainties regarding the change in environmental conditions created by the breakwaters over the operational phase for these key prey species. • Provide further details of proposed monitoring of these key species to validate the modelling assumptions between the construction and operational phases and during the operational period. • Confirm what other mitigation measures have been considered that could be incorporated to provide improved confidence in the predicted model outputs, taking into account the limited evidence available on the long-term efficiency and maintenance requirements of behavioural deterrents and lack of data on the effects of low approach velocities and AFD's for sandeels (Shadow HRA, Section 10.3.225 pg 736). [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.5 to 3.11.] [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.23 to 3.27.]	*Submission for ML by 22nd Feb 2019* *Information provided in response to Schedule 5 EPR Operational water discharge Permit application (draft due to be provided to HNP by 25/1/19).*

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26	Provide information on the importance of changes in coastal processes on designated interest features and their conservation objectives. [Note: x-ref to NRW Advisory letter dated 24/08/2018 paras 3.12 and 3.16 to 3.22.]	*Note uploaded to Sharepoint on 8th Feb 2019* *Submitted to DCO Examination. Coastal Processes note submitted at Deadline 2. [REP2-007].* *Refer to the following:* Link *Additional memo being prepared for Deadline 5 in response to National Trust Post Hearing Submission*