



**Cyfoeth  
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Cymru  
**Natural  
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**Ein cyf/Our Ref:** AOS-21167-0035

**Eich cyf/Your ref:** EN010136

**Our Unique Ref:** 20049491

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Date: 16/01/2025

For the attention of: Susan Hunt

Dear Susan,

**PROPOSED MORGAN OFFSHORE WINDFARM**

**PLANNING INSPECTORATE REFERENCE: EN010136**

**OUR REFERENCE: 20049491**

**RE: NATURAL RESOURCES WALES' DEADLINE 5 SUBMISSIONS**

Thank you for your Rule 8 letter, dated 12 September 2024, requesting Natural Resources Wales' (NRW) comments regarding the above.

Please find below NRW's Deadline 5 submissions which comprises advice on the submissions produced by the Applicant and received at Deadline 4 on 12 December 2024.

The documents that we have reviewed for Deadline 5 include:

- REP3-006, S\_D3\_4 – Applicant's Response to Examining Authority's Written Questions (ExAQ1).
- REP4-009, S\_D4\_6 – Applicant's Response to IP Submissions Submitted at Deadline 3.
- REP4-032, S\_D4\_22 – Outline Offshore Construction Method Statement (Incorporating Outline Cable Specification and Installation Plan).

- REP4-024, S\_D4\_15 – Review of Cumulative Effects Assessment and In-Combination Assessment: Morgan and Morecambe Offshore Wind Farms: Transmission Assets.
- REP4-029, SD\_4\_19 – Project Alone and Cumulative Assessment for the Great Orme's Head SSSI.
- REP4-031, SD\_4\_21 – Differences between the Morgan Generation Assets and the Mona Offshore Wind Project in Abundance Estimates used in the CEA.
- REP4-032, SD\_D4\_22 – Outline Offshore Construction Method Statement.
- OFFSEN Offshore Wind Seabird Assessment Tool, V1.1, Nov 2024\_Welsh Sites.

We have provided advice specifically on marine ornithology and marine mammals considering the Applicant's Deadline 4 submissions. Where we have not provided explicit advice, it can be taken that we have no further comments to make at this stage and that the ExA should refer to our previous submissions on those matters.

These representations should be read in conjunction with advice previously provided into the examination.

NRW continues to engage extensively and proactively with the Applicant throughout the examination in order to resolve outstanding matters.

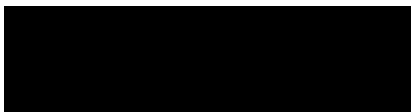
The comments provided in this submission, comprise NRW's response as a Statutory Party under the Planning Act 2008 and Infrastructure Planning (Interested Parties) Regulations 2015 and as an 'Interested Party' under S102(1) of the Planning Act 2008.

Our comments are made without prejudice to any further comments we may wish to make in relation to this application and examination whether in relation to the Environmental Statement (ES) and associated documents, provisions of the draft Development Consent Order ('DCO') and its Requirements, or other evidence and documents provided by bpENBW ('the Applicant'), the ExA or other Interested Parties.

Should further clarity be required, we will be pleased to answer these further through the Examining Authority questions and / or a Rule 17 request(s).

Please do not hesitate to contact Paige Minahan and/or Adam Cooper ([marine.advice@cyfoethnaturiolcymru.gov.uk](mailto:marine.advice@cyfoethnaturiolcymru.gov.uk)) should you require further advice or information regarding these representations.

Yn gywir / Yours sincerely,



**Andrea Winterton**  
**Marine Services Manager**  
**Natural Resources Wales**

## 1 Marine Ornithology

### **1.1 Comments on Project Alone and Cumulative Assessment for the Great Orme's Head SSSI [REP4-029]**

1. NRW welcomes the additional work undertaken by the Applicant in the updated Pen y Gogarth / Great Orme's Head Special Site of Scientific Interest (SSSI) Assessment. In this document the Applicant has incorporated all the various methodological issues previously raised by NRW through the examination until this point. Whilst the Applicant has not considered in its main assessment the predicted guillemot and razorbill impacts at the worst-case scenario (WCS) of the NRW-advised % displacement and % mortality range (i.e. 70% displacement and 10% mortality) for the project alone or cumulatively, it is noted that the full displacement matrices are presented for the project alone in Appendix A of REP4-029 and within the assessments in REP4-029 for cumulative. Therefore, the figures have been able to be extracted for this WCS to inform NRW's advice. NRW also welcomes that the project alone and cumulative population viability analysis (PVA) metrics are provided for this WCS within Appendix C of REP4-029.
2. The Applicant has included information on sabbatical rates and PVA outputs based on predicted impacts removing sabbaticals. At present, NRW do not recommend this as the current evidence base is not considered sufficient to recommend the sabbatical rates of >0 for any species. It is acknowledged that some birds do not breed every year, but the mean proportions of populations doing so are not well understood, nor are their behaviours or distributions in the breeding season. Therefore, NRW advice is based on the predicted impacts and PVA outputs for impacts to adult birds from the colony without inclusion of sabbatical rates.
3. NRW are content with the approaches taken for the assessment of the predicted impacts from the project alone. It is welcomed that the Applicant has now undertaken a cumulative assessment of impacts to the Great Orme's Head SSSI. Regarding the cumulative assessments, it is welcomed that the gap filled historic projects have been included. However, the Barrow and North Hoyle projects have not been included, which NRW assume, is because the Applicant considers these projects will reach the end of their consented lifespan before the Morgan Generation Assets Project is expected to become operational. There appears to be issues/lack of clarity regarding consented lifespans of early offshore wind projects and the Applicant should note that the Llyn 1 Project now has quantitative figures available. As there is potential connectivity for these projects with the Great Orme's Head SSSI populations impacted by Morgan Generation Assets Project (i.e. located within the same respective biologically defined minimum population scales area and/or within foraging range of the colony), then the quantitative figures should also be included for these projects into Morgan Generation Assets Project's cumulative assessment.

4. Whilst NRW consider that the cumulative totals presented are likely to be underestimates, it can be agreed that the project alone and cumulatively with other plans and projects is unlikely to have a significant effect (i.e. not greater than minor adverse) for the guillemot and razorbill features of the SSSI. Based on RSPB hotspot mapping and utilisation distribution mapping data (which covers guillemot, razorbill, kittiwake and shag), they suggest the Morgan Generation Assets Project area is not a key foraging area for guillemot and razorbill from the colony and are therefore unlikely to be affected. Additionally, the guillemot and razorbill populations at the site have both increased by nearly 60% between 2002 (when the site was enlarged) and 2023 (data from the Seabird Monitoring Programme, JNCC), and over this time many of the offshore wind farms included in the cumulative assessments have been constructed and become operational. As the colony populations have continued to increase, it would suggest they have not been adversely impacted by the operation of offshore wind farms.
5. The predicted kittiwake collision mortality from the Morgan Generation Assets Project alone equates to less than 1% of baseline mortality of the Great Orme's Head SSSI colony (0.31% of baseline mortality for the species-group avoidance rate, Table 1.9 REP4-029) and in turn could be considered to be undetectable against background mortality. Therefore, NRW can agree with the Applicant that collision impacts from the project alone would not result in a significant adverse effect (i.e. no greater than minor adverse effect) for kittiwake collision at the SSSI.
6. The predicted cumulative collision total (which is likely to be an underestimate) does exceed 1% of baseline mortality of the colony (11% of baseline mortality, paragraph 1.4.2.4, REP4-029). Therefore, it is welcomed that the Applicant has undertaken a PVA. NRW notes that the kittiwake colony of the SSSI is decreasing, but not at a rate that has been seen at other UK kittiwake colonies. In consideration of this and the Applicant's PVAs suggest that the population would decline due to the cumulative impact (Table 1.22, REP4-029), NRW consider that the predicted cumulative collision impacts as presented, which are likely to be underestimated, have the potential to give rise to a moderate adverse impact for the kittiwake feature of the SSSI.
7. As noted above, the predicted level of cumulative impacts, which includes consideration of the gap filled historical projects, to the kittiwake feature of the Pen y Gogarth / Great Orme's Head SSSI are at a level of concern. In relation to Morgan Generation Assets Project, NRW welcome the commitment by the Applicant to raise turbine draught height to 30m above Mean Sea Level (MSL) [APP-055]. Therefore, NRW are content that the Applicant has provided proportionate mitigation (through the air draught height) for kittiwake collisions at this site.

## **1.2 Comments on Review of Cumulative Effects Assessment and In-Combination Assessment: Morgan and Morecambe Offshore Wind Farms: Transmission Assets [REP4-024]**

8. NRW have reviewed the above document and have no comments to make at this time.

## **1.3 Comments on Differences between the Morgan Generation Assets and the Mona Offshore Wind Project in Abundance Estimates used in the CEA [REP4-031]**

9. NRW notes that the Applicant has provided clarification into the differences between the Mona Offshore Wind Project and Morgan Generation Assets Cumulative Effects Assessment (CEA), and that these differences can be attributed to the way in which kittiwake apportioned abundance figures in the displacement CEA have been generated. Please note, NRW do not recommend that displacement is assessed for kittiwake as we currently consider the evidence base to be insufficient. Hence, we have not provided advice/comment on the displacement aspect of the kittiwake assessment and hence have no comments to make on REP4-031.

## **1.4 Comments on OFFSEN Offshore Wind Seabird Assessment Tool, V1.1, Nov 2024 Welsh Sites**

10. NRW received the above spreadsheet of summary data, including predicted impacts covering Welsh SPAs via email, dated 23<sup>rd</sup> December 2024. After reviewing the spreadsheet, NRW can confirm that for the assessment of project alone impacts, the spreadsheet has incorporated all the various methodological issues previously raised by NRW through the examination and hence follows the approaches advised for assessments. The project alone impacts have therefore been considered for the SPAs within NRW's remit (i.e. those located in Wales) and note that for the full range of NRW advised impacts (including full ranges of advised % displacement and % mortality rates for displacement assessments), the predicted impacts from the project alone for all relevant Welsh SPAs equate to below 1% baseline mortality of the respective SPA populations (including at the worst case scenarios). Hence the predicted impacts for the project alone can be considered undetectable against background mortality and the Conservation Objective target populations of the sites would be achieved. Taking the above into consideration, NRW can confirm that an adverse effect on site integrity (AEoSI) can be ruled out for the project alone for the following site and feature combinations:
  - Grassholm SPA: gannet (collision, displacement, collision plus displacement)
  - Skomer, Stokholm and seas off Pembrokeshire SPA: Manx shearwater (displacement, collision, collision plus displacement); lesser black-backed gull (collision); guillemot (displacement – note this is a named component of the assemblage feature); razorbill (displacement – note this is a named component of the assemblage feature); kittiwake (collision – note this is a named

component of the assemblage feature); seabird assemblage (displacement, collision, collision plus displacement)

- Aberdaron Coast and Bardsey Island SPA: Manx shearwater (collision, displacement, collision plus displacement)

11. Please note, NRW reserve the right to amend the above advice if the information submitted by the Applicant at Deadline 5 differs from the information provided on 23<sup>rd</sup> December 2024.

12. The spreadsheet provided by the Applicant (23/12/2024) did not contain any in-combination assessments for any Welsh SPAs. NRW understands that this is due to the approach taken by the Applicant that if the predicted impact from the project alone equates to less than 0.05% of baseline mortality of a designated site, then it is deemed non-material and within natural fluctuations of the population and is therefore screened out of in-combination assessment. Furthermore, the Applicant has again only considered their preferred % displacement and % mortality rates in this screening exercise and has not considered whether the project alone 0.05% baseline mortality threshold is exceeded at any point with the range of NRW advised rates (as was advised in paragraphs 34-35 of RR-027).

13. The above issue was discussed with the Applicant during a call with the SNCBs (08/01/2025). The Applicant has subsequently sent a revised summary spreadsheet to NRW via email, dated 12<sup>th</sup> January 2025. However, due to time and capacity restraints, NRW has been unable to review the in-combination assessments by Deadline 5. NRW will provide further advice on the in-combination impacts following a full review of the Applicant's Deadline 5 submission. It should be noted that for the Mona project, it has recently been concluded by NRW that an AEoSI can be ruled out for all in-combination impacts for all marine ornithology features of Welsh SPAs. Given that the Morgan Generation project is in examination at the same time as the Mona project and that both projects are located in the north Irish Sea/Liverpool Bay area, NRW would expect the same projects to be included within the in-combination assessments, and that the in-combination totals for both projects would be the same/similar. Therefore, NRW consider it likely that the same conclusion would be reached regarding in-combination assessments for the Morgan project after full review of the updated numbers submitted by the Applicant at Deadline 5.

## 2. Marine Mammals

### **2.1 Comments on Applicant's Response to Examining Authority Questions 1 (ExAQ1) [REP3-006 – MM 1.17]**

14. The Applicant makes the following argument "The Applicant still considers that assessing the footprint of disturbance for a moving vessel as a continuous area from point A to B along a potential shipping route (leading to an elongated buffer) based upon a precautionary effect range would lead to an overestimate of the effect as it assumes that a disturbance effect would

continue even after a vessel has passed and does not consider any rapid recovery of animals following a potential disturbance event.”

15. Whilst pointing out that rapid recovery is not equivalent to instantaneous recovery, the fact that an animal recovers sometime after a disturbance event, does not mean the event should no longer be counted as a disturbance. Thus, if the intent is to calculate the number of animals disturbed, to propose removing it from the count invites the risk of significant underestimates.
16. NRW posit that by discounting disturbance events from which an animal has recovered, there is a risk that impact pathways which consist of chronic, but individually relatively small (in terms of effect), disturbance events are overlooked on account of these individual disturbance events being short lived. NRW believe it is important to consider the overall additional stressor load introduced when making a conclusion on the magnitude of a pathway.
17. NRW believe it is plausible that the cumulative impact of repeated but individually small disturbances may be greater than the impact from a single disturbance event, and modelling these potential effects is currently an active area of research. Thus, NRW does not accept rapid recovery to be a valid argument for rejecting the elongated buffer approach.
18. In presenting numbers for a fixed radius, the data table presented shows a running estimate of animals disturbed at one point in time (essentially a snapshot), rather than the numbers disturbed. This is a crucial distinction. As a vessel moves, this snapshot will move with it and new animals will be disturbed while simultaneously the animals disturbed previously will be going through the recovery process. Even assuming their recovery is instantaneous, the (total) numbers disturbed over a given time period (e.g. 1 day, 1 season, the construction phase etc) would be expected to be far greater than the numbers presented in a snapshot calculation. This rule holds true independently of the size of the radius selected.
19. The Applicant has also concluded that small fractions of the Management Unit (MU) populations will be disturbed and that therefore the magnitude is small, however these numbers are true for a vessel fixed point in time only. It therefore is inaccurate to state that e.g. “0.017% of the harbour porpoise MU will be disturbed” (for a 3.627 km impact radius) without clarifying that this is a precautionary estimate for a fixed point in time for a single vessel and not a total.
20. In principle, NRW have no concerns with the use of a fixed impact radius to provide a snapshot estimate of numbers disturbed at one point in time, this needs to be made abundantly clear in the assessment. Without this clarification, it is inaccurate to state that 0.017% of the harbour porpoise MU will be disturbed.
21. In addition, to the clarification regarding the difference between the level of precaution in the applied radius vs the overall approach taken [paragraph 21], NRW highlight that while the 120 dB SPL<sub>rms</sub> (NMFS, 2005) threshold is

lower (as a number) than the threshold of 145 dB re 1  $\mu\text{Pa}^2\text{s}$  ( $\text{SEL}_{\text{ss}}$ ) used in Wylfa Newydd and would therefore be assumed to be more precautionary, please note that the fact that these thresholds have different metrics ( $\text{SPL}_{\text{rms}}$  and  $\text{SEL}_{\text{ss}}$ ) and not easily comparable without knowledge of the integration time (see Madsen et al 2005 for further discussion). NRW further notes that the level of precaution associated with the applied noise threshold alone does not inherently imply that the overall approach is more precautionary and thus NRW disagree with the statement that *“The Applicant is therefore confident that further assessment to align with the approach taken in Wylfa Newydd does not need to be carried out on the basis that this would result in a less conservative assessment than has been presented in Volume 2, Chapter 4: marine mammals (AS-010).”* NRW wish to be clear that any additional levels of precaution associated with either greater impact radii [ref para below], or lower disturbance thresholds are not sufficient to mitigate concerns regarding the underestimate we consider present from the static approach taken versus one that in some way accounts for vessel movement.

22. The Applicant notes the same discussion occurred for the Mona Offshore Wind Project, and NRW stated in the deadline 5 comments that *“for the purposes of the Statement of Common Ground (SoCG), the position status of this matter would be noted as “not agreed – no material impact,” with the Applicant agreeing to clarify that the estimates of the number of animals disturbed represent a conservative estimate at a single point in time from a single vessel (i.e. “a snapshot”).* NRW therefore maintain the same recommendation here of either, (1) calculating numbers using a method similar to those advised in previous responses (an elongated buffer) or (2) clarifying that the numbers of animals disturbed calculated using a static radius are for a single point in time only, and that option (2) may be the preferred approach to resolving this matter at this stage of examination.

23. NRW highlight that if the first option is not pursued, it is critical that this clarity from recommendation (2) is included, particularly in the context of facilitating robust in-combination or cumulative assessment with the works in future. As mentioned above, in principle NRW have no concerns with the use of a fixed impact radius when used specifically to provide a snapshot estimate of numbers disturbed at one point in time, however this needs to be made abundantly clear in the assessment, otherwise disturbance estimates would constitute an underestimate.

## **2.2 Comments on Applicant’s Response to Interested Parties Submissions Submitted at Deadline 3 [REP4-009 – Ref. REP3-050.39]**

24. NRW note the applicants response in [REP4-009]. NRW’s position that “presenting numbers of animals disturbed based on a static radius to be a significant underestimate compared to a methodology that in some way captures the movement of vessels (even if this is a simplified methodology)” remains unchanged from the pre-application period and as described in subsequent submissions [RR-027, REP1-056 and REP3-050]. NRW fundamentally do not agree with the applicants position that the static



method applied is sufficiently robust, based on the arguments we have presented here and in previous submissions. Although this issue remains unresolved we draw your attention to paragraph 26 below, that whilst NRW are not in agreement with the methodologies used, we nonetheless do agree with the Applicant's conclusions.

25. NRW highlight the difference between the precaution level associated with the impact radius applied and the precaution level associated with a static radius vs one that accounts for vessel movement. The radius applied in this assessment ((3.627 km / 7 km) may be larger than used in the Wylfa Newydd assessment (60 m as quoted in [REP4-009, Ref. REP3-050.39]) but as this assessment does not account for vessel movement whereas the Wylfa Newydd assessment does, this larger radius does not inherently imply a more precautionary approach.
26. It is plausible that the cumulative impact of repeated but individually small disturbances may be greater than the impact from a single disturbance event and the fact that modelling these potential effects is currently an active area of research. The SATURN project has incorporated the ability to assess impacts from shipping into the DEPONS model for simulating population effects of noise for harbour porpoises (Schnitzler et al., 2024). Similarly work is being done to further develop Dynamic Energy Budget (DEB) models for their eventual inclusion into the Interim Population Consequences of Disturbance (iPCoD) framework (Harwood et al 2022), noting that King et al (2015) suggested that other impact pathways (such as noise from seismic surveys and / or vessels) can be included into iPCoD by using estimates of the number of animals predicted to be disturbed by these activities and their extent in time and space.
27. NRW reiterates the following; "NRW can confirm that we still agree on an overall conclusion of "low magnitude". We also note that this methodological discussion does not materially impact our agreement with the overall conclusions that there will be no significant effect / adverse effect on marine mammal populations due to the mitigation methods that will be employed" and that "NRW notes the commitment of the Applicant to the development of, and adherence to, an Offshore Environmental Management Plan (EMP) which includes measures to minimise disturbance to marine mammals (and rafting birds) from transiting vessels. We welcome this commitment, which we consider could mitigate most of the impacts, making the overall conclusion acceptable." [REP3-050].

### **2.3 Comments on Outline Offshore Construction Method Statement [REP4-032] and Outline Marine Mammal Mitigation Protocol [REP4-020]**

28. NRW note the changes in the above documents and have no further comments to make at this time. NRW continues to maintain the position that documents will be finalised with the Applicant post consent.

### 3. References

- Harwood, J., Chudzinska, M., Booth, C., & SMRUC, F. (2022). *Further development of marine mammal dynamic energy budgets models for application to environmental assessments and integration into the iPCoD framework*. SMRUC-MS-2021-015 Provided to Marine Scotland, May 2022 (Available at <https://www.gov.scot/publications/developing-marine-mammal-dynamic-energy-budget-models-potential-integration-ipc-d-framework/documents/>).
- King, S. L., Schick, R. S., Donovan, C., Booth, C. G., Burgman, M., Thomas, L., et al. (2015). An interim framework for assessing the population consequences of disturbance. *Methods in Ecology and Evolution*, 6(10), 1150e1158. [REDACTED]
- Madsen, P. T. (2005). Marine mammals and noise: Problems with root mean square sound pressure levels for transients. *The Journal of the Acoustical Society of America*, 117(6), 3952-3957.
- Schnitzler, J.G., Aguilar de Soto, N., André, M., Van Benda-Beckmann, S., Caro, P.P., Findlay, C.R., Frankish, C.K., Johnson, M., De Jong, C., Madsen, P.T. and Marin, O., 2024, October. How SATURN is studying the impact of ship noise on the behaviour, health, energetics, and populations of aquatic organisms. In *INTER-NOISE and NOISE-CON Congress and Conference Proceedings* (Vol. 270, No. 6, pp. 5272-5280). Institute of Noise Control Engineering.