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Eich cyf/Your ref: EN010137
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Dyddiad/Date: 19 December 2024

Er sylw / For the attention of: Jake Stephens

Annwyl / Dear Jake,

FFERM WYNT ALLTRAETH MONA / PROPOSED MONA OFFSHORE WINDFARM

CYFEIRNOD YR AROLYGIAETH GYNLLUNIO / PLANNING INSPECTORATE REFERECE: EN010137

EIN CYFEIRNOD / OUR REFERENCE: 20048445

RE: NATURAL RESOURCES WALES' DEADLINE 6 SUBMISSION

Thank you for your Rule 8 letter, dated 23 July 2024, requesting Cyfoeth Naturiol Cymru / Natural Resources Wales' (NRW) comments regarding the above.

Please find below NRW's Deadline 6 submission which comprises advice on the submissions produced by the Applicant and received at Deadline 5 on 03 December 2024.

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.

For the purpose of clarity, comments from NRWs Marine Licencing Team (NRW MLT) are titled as such and are produced in section 3; all other comments pertain to NRW's advisory (NRW (A)) role.

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 Examining Authority 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 [redacted] ([redacted]@cyfoethnaturiolcymru.gov.uk) [redacted] ([redacted]@cyfoethnaturiolcymru.gov.uk) and [redacted] ([redacted]@cyfoethnaturiolcymru.gov.uk) should you require further advice or information regarding these representations.

Yn gywir / Yours sincerely,

[redacted]

[redacted]
Marine Services Manager
Natural Resources Wales

[CONTINUED]

Contents

1 OFFSHORE

1.1 Marine Ornithology

1.1.1 Overall Comments

1. We welcome the additional work undertaken by the Applicant in REP5-074 and REP5-075 to update the cumulative and in-combination assessments to include the following:

    - Updated Morgan Generation Assets (GA) and Morecambe GA project figures to account for the best available evidence from the application submissions rather than the figures from the Preliminary Environmental Information Reports (PEIRs).
    - Addition of predicted impacts from the Llŷr 1 project.

2. We welcome that the Applicant has undertaken an alignment task (i.e. a review of the data used by Mona and Morgan projects in the Cumulative Effects Assessment (CEA) to ensure numbers used for the other projects in the CEAs are as consistent as possible) on CEA abundances/impacts used between the Mona Offshore Wind Project and Morgan GA projects. Therefore, we welcome the amendments the Applicant has made to the predicted collision impacts for herring gull for Burbo Bank Extension and for lesser black-backed gull (LBBG) for TwinHub as a result of this work.

3. We are content with the Applicant's removal of the predicted great black-backed gull (GBBG) collision impact from West of Orkney Wind Project from the cumulative total as noted in REP5-075. This is because this project is not located within the same GBBG Biologically Defined Minimum Population Scale (BDMPS) as the Mona Offshore Wind Project (South West and Channel BDMPS). Therefore, we agree that the West of Orkney Wind Project has no connectivity throughout the whole year with the GBBG South West and Channel BDMPS.

4. We advise that the standard approach to cumulative and in-combination assessments is to use the consented parameters of each project and to refer to the worst-case scenario (WCS) assessed within the relevant Environmental Statement (ES), taking account of any updated assessments provided throughout the examination process. Additionally, NRW (A) advise the use of the species-group avoidance rates. Therefore, we have based our comments/advice on the indicative cumulative (and in-combination) collision predictions based on the figures using the species-group avoidance rates, and the consented wind farm parameters where these are available, and; the as-built parameters where consented information is unavailable.

1.1.1.1 Comments on updated cumulative assessments in REP5-075

5. We note that the predicted abundances and collision estimates for each offshore wind project included in the cumulative assessments are now located across multiple documents:

- Figures for projects with quantitative data available from their submissions are included in the updated '*Offshore Ornithology ES Chapter*' [REP4-007];
- Figures for the gap-filled historical projects are available in the '*Offshore Ornithology Cumulative Effects Assessment and In-combination Gap-filling Historical Projects Technical Note*' [REP4-028];
- Updated figures for Morgan Generation and Morecambe GA are included in Table 1-1 of REP5-075;
- Figures include for Llŷr 1 are located in the relevant species tables within REP5-075;
- The updated figures for Burbo Bank Extension and TwinHub for herring gull and LBBG respectively are located in Tables 1-17 and 1-18 of REP5-075.

6. We would therefore recommend that by the end of the examination the Applicant either: submits an updated Offshore Ornithology ES Chapter that includes full cumulative abundance and collision tables (including the quantitative impacts for each project in the cumulative assessments), or alternatively a standalone EIA cumulative tables document that brings all this information project by project together for each species. This is in order to bring all these numbers feeding into the cumulative assessments into one place that is readily and easily accessible for future projects to utilise this information.

1.1.1.2 Comments on updated in-combination assessments in REP5-074

7. We welcome that in REP4-074 the Applicant has provided updated in-combination assessments incorporating all SNCB advice for the Welsh Special Protection Areas (SPAs) and features identified as having outstanding issues. We agree with the approach taken in REP5-074 to age-class proportions during the breeding season and the consideration of projects which have submitted consent applications since the in-combination assessment for the Mona Offshore Wind Project was undertaken (namely Morgan GA, Morecambe GA, and Llŷr 1).

1.1.1.2.1 SPA population estimates used in baseline mortality calculations in REP5-074

8. In section 1.4.1 of REP5-074, we note that the Applicant has updated the SPA population estimates used in the calculations of baseline mortality to the most recent site counts, which for all species considered with the exception of Manx shearwater, are colony counts from 2024. Whilst we appreciate this represents the most up to date information on the colony populations, we note that they are not contemporaneous with the Mona site-specific baseline surveys (undertaken between March 2020 until February 2022) used to calculate estimated mortality impacts. We consider that it is important to use contemporaneous data in order to be comparing like-for-like impacts against populations. This is particularly important should there be a large change in a colony population after baseline surveys have been carried out. For example, the Highly Pathogenic Avian Influenza (HPAI) outbreak caused large numbers of mortalities in summer 2022 and 2023 with the Grassholm SPA gannet colony having been severely affected: with a 52% reduction in nesting pairs from 2022

to 2023 (Johnstone et al. 2022). This is reflected in Seabird Monitoring Programme (SMP) counts showing 78,584 adults in 2009 and 72,022 in 2015, then just 32,964 in 2023 and 39,398 in 2024. Therefore, comparing mortalities associated with offshore wind farm development calculated using data collected pre-HPAI against colony counts post-HPAI is not appropriate, and is likely to overestimate relative impacts. Therefore, we recommend the most contemporaneous colony counts to baseline surveys are used within impact assessments and advise that the Grassholm SPA Gannet assessment use the 2015 colony count of 72,022 adults. We suggest that impacts from the HPAI outbreak are considered within a narrative around predicted impacts.

9. However, we note that using the most recent 2024 colony counts does not make a substantial difference to the results of the in-combination assessment with regard to the features of the Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro (SSSP) SPA compared to using contemporaneous colony counts. Therefore, whilst we would not recommend the most recent colony counts in favour of contemporaneous colony counts, we do remain in agreement with the Applicant's in-combination assessment of Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro SPA. It should be noted that this issue of contemporaneous data does not apply to the Manx shearwater features of the sites considered, as the colony populations used by the Applicant for this species are the most recent available counts (2015 for Aberdaron Coast and Bardsey Island SPA and 2018 for SSSP SPA).

1.1.1.2.2 Grassholm SPA: Gannet in-combination assessments

10. Having reviewed the Applicant's Deadline 5 submissions, NRW (A) have some concerns regarding the Applicant's current conclusions with regard to site integrity for the Grassholm gannet SPA in-combination assessments. We have discussed these concerns on an urgent call with the Applicant on 16 December 2024. During this call we noted that there were several elements of the Applicant's assessment that could be considered overly precautionary and could lead to misleading conclusions with respect to site integrity, specifically:

    - Use of the 2024 colony count, which is not contemporaneous with the site-specific survey data (as detailed above).
    - We note that tracking data (e.g. from Votier et al. 2010) and utilisation distributions (e.g. Wakefield et al. 2013) suggest that gannets have been shown to display spatial segregation between colonies and that it is unlikely that gannets from Grassholm SPA will forage in the Irish Sea area. Therefore, it is likely that the breeding season apportionment values calculated by the Applicant for the wind farms located in the Irish Sea and hence the apportioned in-combination collision, displacement and hence combined collision + displacement impacts to the colony in the Applicant's assessment are overly precautionary.
    - It appears that the Applicant has not considered any accounting for macro avoidance of gannet in the in-combination collision assessment for this site. Therefore, if this is the case, it is likely that the gannet

indicative in-combination collision total and hence combined collision + displacement total presented in Table 1.13 of REP5-074 could be an overestimate.

- Additionally, gannet has a large foraging range (mean-maximum of 516.7km for Grassholm SPA, Woodward et al. 2019) and has a high habitat flexibility (Furness & Wade 2012) suggesting that displaced birds would readily find alternative habitats including foraging areas. Therefore, it is considered unlikely that in-combination displacement mortality rates would be at the top of the range considered and may be more likely to be towards the lower end of the range.

11. Given the concerns raised above, we cannot rule out Adverse Effect on Site Integrity (AEoSI) for gannet from the Grassholm SPA at this stage. However, following the call on 16 December 2024, we understand that the Applicant intends to submit at Deadline 6 an updated assessment that takes the points raised at para 10 above into consideration. Whilst we cannot rule out AEoSI until this matter is rectified, we do anticipate that the remaining issues are capable of being resolved before the close of Examination, and consider that it is unlikely that a derogation and compensation case would be required for this site. However, we cannot definitively confirm this until we have given a full and comprehensive review of the additional information the Applicant intends to submit at Deadline 6.

1.1.2 Summary of NRW (A) Advice for EIA and Habitats Regulations Assessment (HRA) Scale

12. NRW (A) has reviewed the evidence presented in REP5-074, REP5-075 and have interpreted the predicted indicative impacts for the scenarios we consider most appropriate impacts (i.e. those including the gap filled figures for historical projects, other updates to figures for other projects, additional project figures, and specifically for collision risk, the predictions based on the figures using the species-group avoidance rates and the consented wind farm parameters where these are available, and; the as-built parameters where consented information is unavailable). A summary of our advice is presented in Table 1 and detailed advice around how these conclusions for outstanding issues were reached are set out in Appendix 1 for EIA scale and Appendix 2 for HRA scale.

Table 1: Summary of conclusions for assessments of the Mona project alone and cumulatively at EIA scale and in-combination for HRA scale with other plans and projects for relevant species

EIA species	**Mona Project Alone***	**Mona cumulatively with other plans & projects**
Gannet: collision	No significant adverse impact	No significant adverse impact
Gannet: displacement	No significant adverse impact	No significant adverse impact
Gannet: collision + displacement	No significant adverse impact	No significant adverse impact
Kittiwake: collision	No significant adverse impact	No significant adverse impact

Lesser black-backed gull: collision	No significant adverse impact	No significant adverse impact
Herring gull: collision	No significant adverse impact	No significant adverse impact
Great black-backed gull: collision	No significant adverse impact	Unable to rule out significant adverse impact
Guillemot: displacement	No significant adverse impact	No significant adverse impact
Razorbill: displacement	No significant adverse impact	No significant adverse impact
Puffin displacement	No significant adverse impact	No significant adverse impact
Manx shearwater: displacement	No significant adverse impact	No significant adverse impact
HRA species and site	**Mona Project Alone**	**Mona in-combination with other plans & projects**
Skomer, Skokholm & seas off Pembrokeshire (SSSP) SPA, Manx shearwater: displacement	No AEoSI**	No AEoSI
SSSP SPA, Puffin: displacement	No AEoSI**	No AEoSI
SSSP SPA, Lesser black-backed gull: collision	No AEoSI**	No AEoSI***
SSSP SPA, European storm petrel	No AEoSI***	No AEoSI***
SSSP SPA, guillemot (named component of seabird assemblage): displacement	No AEoSI**	No AEoSI
SSSP SPA, razorbill (named component of seabird assemblage): displacement	No AEoSI**	No AEoSI
SSSP SPA, kittiwake (named component of seabird assemblage): collision	No AEoSI**	No AEoSI
SSSP SPA, seabird assemblage: collision and displacement	No AEoSI**	No AEoSI
Grassholm SPA, gannet: collision	No AEoSI**	Unable to confirm until have fully reviewed additional information Applicant intends to submit at Deadline 6
Grassholm SPA, gannet: displacement	No AEoSI**	No AEoSI
Grassholm SPA, gannet: collision + displacement	No AEoSI**	No AEoSI
Aberdaron Coast & Bardsey Island SPA, Manx shearwater: displacement	No AEoSI**	No AEoSI
Liverpool Bay SPA: red-throated diver	No AEoSI	No AEoSI
Liverpool Bay SPA: common scoter	No AEoSI	No AEoSI

* Based on advice provided in REP3-090 (see Appendix 1 of Annex A) and in REP4-105 (see Annex B)

** Based on advice provided in REP4-105 (see Annex B)

*** Based on response to RIES question in paragraph 4.1.7 – see paragraph 17 of REP5-099

1.2 Marine Mammals

13. Other than the points raised below, we have no further comments to make at this stage with respect to Marine Mammals.

1.2.1 Comments on Draft Development Consent Order REP5-006

14. We welcome the Applicant's decision to remove high-order clearance from the draft Development Consent Order (DCO) and the standalone Marine Licence (ML) application in Schedule 14, Condition 21(1) of the draft DCO [REP5-006].

15. As noted in NRW's Deadline 5 Submission [REP5-098], our position on the use of different UXO clearance methods (low-order cf high-order) are clearly stated in our written representations [REP1-056], and we confirm that our view remains that all UXO clearance is restricted to low-noise methods only, and that high order clearance should only be used in exceptional circumstances. We are therefore pleased to note that high order clearance is being removed as an option from the project at this stage.

16. As previously noted, NRW is currently a signatory to the 2022 Joint Interim Position Statement on UXO Clearance. We once again draw attention to the pending update to the Position Statement on UXO clearance that is currently in development (and which NRW has contributed to), and which may be published prior to the completion of this examination process. For the avoidance of doubt, we are currently unable to confirm when the position will likely be published, however should this be published during the examination process we will draw the ExA and the Applicant's attention to this document immediately.

1.2.2 Comments on: the Mitigation and Monitoring Schedule REP5-024, the Offshore In-Principle Monitoring Plan REP5-026, and the Marine Licence Principles Document REP5-022

17. We acknowledge and agree to the changes made to the documents.

1.2.3 Comments on the updated Outline Underwater Sound Management Strategy REP5-028

18. Please see NRW MLT's comments at paragraph 86 in section 3, on the complete removal of UXO clearance activities from Requirement 20 of the dML governing the Underwater Sound Management Strategy (UWSMS). We echo these concerns and continue to advise that the UWSMS, which includes details regarding UXO clearance, must be submitted for approval in writing, post-consent and prior to construction. UXO clearance needs to be included within Requirement 20.

19. We welcome the Applicant's decision to remove high-order clearance from the draft DCO and the standalone ML application in Schedule 14, Condition 21(1) of the draft DCO [REP5-006]. As noted above at paragraph 15, our position on the use of different UXO clearance methods (low-order cf high-order) are clearly stated in our written representations [REP1-056], and we confirm that our view

remains that all UXO clearance is restricted to low-noise methods only, and that high order clearance should only be used in exceptional circumstances.

20. Please also see paragraph 16 above with respect to the DEFRA Joint Interim Position Statement on UXO clearance and its pending update.

21. As noted in REP1-056, we continue to advise that we do not recommend the proposed use of soft start charges for UXO clearance due to the substantial additional impulsive noise they introduce into the environment (Robinson et al. 2022), and their scaring effect not being proven (Lewis 1996; Keevin and Hempen 1997, Cheong et al. 2020). We acknowledge the Applicant's response in REP2-080, and advise that we will continue to engage with the Applicant on this matter post-consent in development of the UWSMS.

22. We welcome and agree with the amendments made to clarify the primary and tertiary measures adopted as part of the Mona OWF.

23. Please see NRW (A)'s previous comments on the UWSMS as documented in REP1-056, REP3-090 and REP4-047.

1.2.4 Comments on the Outline Marine Mammal Mitigation Protocol REP5-032

24. NRW(A) agrees with the changes made to the outline Marine Mammal Mitigation Protocol (MMMP).

25. We welcome the Applicant's decision to remove high-order clearance from the draft DCO and the standalone ML application in Schedule 14, Condition 21(1) of the draft DCO.

26. We noted in our Written Representations that the Applicant should follow a proportionate application of Acoustic Deterrent Devices (ADD's). We therefore welcome the addition of the following in section 1.6.4.1 "…*and will consider carefully the ADD duration to balance the risk of injury with any potential further disturbance from the ADD itself to ensure a proportionate and judicial application*."

27. Finally, we welcome the inclusion of proposed mitigation for geophysical surveys in the outline MMMP.

1.2.5 Comments on the Measures to Minimise Impacts to Marine Mammals and Rafting Birds from Transiting Vessels REP5-073

28. No additional comments from a marine mammal perspective.

1.2.6 Comments on the Applicant's Response to NRW D4 Submission REP5-061

29. REP4-105.39 to REP4-105.48: NRW (A) confirms that matters relating to disturbance to marine mammals from vessel noise, were discussed further with the Applicant on 8 and 26 November 2024 and both parties agreed that '*a single point in time'* is an accurate and appropriate representation of the assessment

methodology. For the avoidance of doubt, we would appreciate if the Applicant can clarify whether the statement *"(i.e. within a 24 hour period)"* refers to a single point in time within those 24 hours.

30. While we agree with the Applicant that there are currently no widely adopted methods to model cumulative disturbance from vessels outside of the North Sea, as noted in our Deadline 5 submission [REP5-098], the most recent version of the DEPONS model for simulating population effects of noise for harbour porpoises (V3.0) now makes it possible to simulate the population impact of noise from ships (albeit limited in scope to the North Sea). 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. We highlight these models for awareness purposes only and advise that no additional work is required by the Applicant on this matter.

31. Given that agreement was reached on a way forward, pending response to our final query at paragraph 29 above, we anticipate being able to close this matter.

32. REP4-105.49: Noted, we have no further comments on the CEA and In-Combination Assessment and consider the matter closed.

1.2.7 Comments on the Applicant's Response to Examining Authority's Written Questions (ExQ2) REP5-080

33. Q2.17.12: As noted above at paragraph 14, we welcome the Applicant's decision to remove high-order clearance from the draft DCO and the standalone ML application.

34. As previously noted above, should the DEFRA Position Statement on UXO clearance be published ahead of the end of examination, we will alert the ExA and Applicant accordingly.

35. We acknowledge and welcome the Applicant's statements in response to Q2.17.12 that: (a) the Applicant will review and align with any new guidance when this becomes available; (b) The MMMP and UWSMS approach is purposely designed to enable the Applicant to take into account any emerging guidance or policy requirements with respect to mitigation during the preparation of the final MMMP and UWSMS post consent, which must be approved in writing by the licensing authority in consultation with the relevant stakeholders.

36. Q2.17.16: relates to mitigation and monitoring measures for marine mammals. Further to the Applicant's response to Q2.17.16, we have no additional comments to make and confirm our previous response from our written representations [REP1-056] with respect to monitoring requirements).

1.3 Fish and Shellfish

37. 13. Other than the points raised below, we have no further comments to make at this stage with respect to Fish and Shellfish.

1.3.1 Comments on the Draft Development Consent Order REP5-006

38. NRW (A) welcomes the removal of the high order clearance from the draft DCO and from the stand-alone ML. We therefore have no further comments on this matter from a fish perspective.

1.3.2 Comments on the Mitigation and Monitoring Schedule REP5-024

39. NRW (A) welcomes the amendments made to the Schedule, which rectify previous referencing omissions with respect to appropriate consideration of the fish and shellfish document in the schedule. We therefore have no further comments.

1.3.3 Comments on the Outline Underwater Sound Management Strategy (UWSMS) REP5-028

40. NRW (A) welcomes the changes that have been made to the UWSMS, and consider that, in continuing to develop the UWSMS post-consent, appropriate mitigation can be reached for both cod and herring through this mechanism.

41. Some of the measures that have been included within the document as suggested mitigation for fish may, in further developing the strategy post-consent, require further evidence as to their efficacy. For example, spatial phasing in which reduced levels of piling are undertaken during spawning seasons.

42. For Herring, for example, given the latest ICES advice of 0 catch of herring in the northern Irish sea (region VII a) in 2025 and their advice that activities on spawning grounds should not be allowed until the effects have been shown not to be detrimental (Herring (*Clupea harengus*) in Division 7.a North of 52°30'N (Irish Sea), ICES, 2024)[1], suggested mitigation measures such as spatial or temporal phasing with a reduction on piling activities in the spawning season may not be robust enough as mechanisms on their own to protect spawning herring. Whilst the Mona array is not directly positioned on a known spawning ground, the modelled noise impacts are due to reach the herring low and high intensity grounds to the north of the mona boundary (when modelled using piling activity to the north of the proposed array). As noise disturbance could have a detrimental impact on spawning activities, implementing mitigation practices such as conducting piling in a different segment of the mona array area during the spawning season may not reduce the noise level by a large enough amount to reduce disturbance. Should the Applicant, however, have noise modelling scenarios based on a piling location to the south of the array,

[1] https://ices-library.figshare.com/articles/report/Herring_i_Clupea_harengus_i_in_Division_7_a_North_of_52_30_N_Irish_Sea_/25019300?file=50312949

this may provide evidence for the use of spatial phasing, with reduced piling activities that may be suitable for herring.

43. As previously advised, in NRW (A)'s view, the most robust mitigation would be temporal phasing in which piling activities are not conducted (rather than just reduced) during the spawning season for both herring and cod. We do note this is now included as a potential measure within the updated document, which we welcome.

44. NRW (A) acknowledges that the proposed mechanisms included in the UWSMS are suggestions at present and further detail and consultation with NRW (A) will be carried out following the conclusion of the examination period during the post-consent phase.

1.3.4 Comments on the Applicant's Response to NRW D4 Submission REP5-061

45. NRW (A) welcomes the corrections made to the Mitigation and Monitoring schedule and the commitment by the Applicant to continue reviewing the document as necessary.

1.4 Physical Processes

46. Other than the points raised below, we have no further comments to make at this stage with respect to Physical Processes.

1.4.1 Comments on the Mitigation and Monitoring Schedule REP5-024

47. Reference No 8 and No 14: Please see our comments in REP5-098 paragraphs 72 and 76, with respect to physical processes assessments in the shallow nearshore environment.

1.4.2 Comments on Mona Offshore In-Principle Monitoring Plan REP5-026

Table 1.3 In-Principle Monitoring proposed for physical processes

48. We advise that throughout Table 1.3 of REP5-026, references are made to sections of the Mitigation and Monitoring Schedule [REP5-024], which refer to the incorrect mitigation and/or monitoring measures, which are not relevant to physical processes e.g. Reference Number 88 refers to Personal Protective Equipment (PPE). As noted in our Written Representation [REP1-056], such errors can lead to confusion and uncertainty as to the exact measures to be secured. We therefore advise that the references throughout the REP5-026 and REP5-024 are corrected accordingly, and that the mitigation and/or monitoring approaches and methods of securing monitoring are aligned and consistent throughout documents. With respect to Physical processes, our observations of these errors relate to pre-construction geophysical surveys to establish baseline sand wave levels, and post-construction geophysical surveys to establish sand wave recovery following cable installation, particularly in relation to Constable Bank.

1.4.3 Comments on the Applicant's Response to NRW D4 Submission REP5-061

49. REP4-105.57: As advised in our Deadline 3 Submission [REP3-090], section 1.4, paragraph 102, NRW (A) notes and welcomes the intention of the Applicant to try and avoid cable protection in shallow water. We continue to advise that providing the proposed mitigation measure is strictly adhered to - i.e. no more than a 5% reduction in water depth at any point where cable protection is placed - we are satisfied that there should be no significant impacts to the physical processes in the shallow nearshore environment.

50. As previously noted, we welcome the Applicant's expectation that a condition will be imposed within the standalone NRW ML securing the commitment to limit changes in water depth to 5% caused by the presence of cable protection along the export cable corridor up to and including the exit pits just seaward of MLWS. We have advised that this commitment should be captured in both the DCO dML and the TA ML via the offshore Construction Method Statement (oCMS) and the Cable Specification Installation Plan (CSIP). We continue to advise that NRW (A) are consulted in writing on these documents. We agree that where that restriction is anticipated to be exceeded in the nearshore shallow water environment, the Applicant will consult with NRW (A) in respect of agreeing an alternative position. This commitment should also be conditioned in the stand-alone ML and secured in the Mitigation and Monitoring Schedule [REP5-024]. Providing the commitment and condition are secured in both the DCO dML and TA ML, NRW (A) consider this matter resolved.

51. REP4-105.58 and REP4-105.59 Q1.14.4 Sandwave Recovery Monitoring We welcome that the Applicant is committed to monitoring sand wave clearance recovery, which is documented in Table 1.3 of the Offshore In-Principle Monitoring Plan [REP5-026]. Please note our comments above in paragraph 48 regarding inconsistencies across documents. For consistency and clarity purposes, we advise that these errors are corrected and REP5-026 is amended to reflect the commitment to monitoring sand wave recovery following clearance, and that REP5-026 and REP5-024 are aligned.

1.4.4 Comments on the Applicants Mona Outline Landfall Construction Method Statement REP5-044

52. NRW (A) welcome the Applicant's commitment, detailed in section 1.10.3.2 of REP5-044, that account will also be given to the natural envelope of beach profile change over time from historical beach profiles to inform the final detailed design of the drill duct profile to avoid the risk of cable exposure at the beach. We therefore have no further comments.

1.5 Benthic Subtidal and Intertidal Ecology

53. Other than the points raised below, we have no further comments to make at this stage with respect to benthic subtidal and intertidal ecology.

1.5.1 Comments on the Outline Landfall Construction Method Statement REP5-044

54. We note the text in Section 1.10; paragraphs 1.10.4.5 - 1.10.4.7 of REP5-044 with respect to the location of the drill entry and exit points at landfall. As the exit pits are located sub-tidally, seaward of Mean Low Water Springs (MLWS), NRW (A) recommends that the text in this section is updated to reflect this as many of the measures described (such as the use of construction fencing and a settling basin at the drill exit) are not applicable or relevant in this instance. Details of what will happen to the drilling mud at the exit point should be described instead.

1.5.2 Offshore In-Principle Monitoring Plan REP5-026

55. As raised in section 1.4 at paragraphs 48 and 51 above, we note there are inconsistencies within REP5-026 and across REP5-024, e.g. references made again to measure number 88 of the Mitigation and Monitoring Schedule [REP5-024], which refers to the use of PPE rather than measure number 100 of REP5-024 which refers to '*Monitoring of the cables and their burial status*', as referenced elsewhere in Table 1.3 and Table 1.4 of REP5-026. This and other occurrences should be amended accordingly.

1.6 Marine Water and Sediment Quality (MW&SQ)

56. Other than the points raised below, we have no further comments to make at this stage with respect to marine water and sediment quality.

1.6.1 Outline Landfall Construction Method Statement REP5-044

57. NRW(A) welcome the commitment to the development of and adherence to a bentonite breakout plan to be detailed in the Final Landfall Construction Method Statement. We welcome the opportunity to liaise with the Applicant on the development of the Spillage and Emergency Response Plan.

1.7 WFD: Coastal and Transitional Water Bodies – Offshore works

58. We have no further comments to make at this stage on with respect to offshore WFD.

2 ONSHORE

2.1 Designated Landscapes

2.1.1 Comments on the Response to NRW D4 Submission REP5-061

59. Our comments below address the Applicant's Response in Table 2.9.

2.1.2 Comments on the Applicant's Response to REP4-105.68 & REP4-105.69

60. The Applicant refers to a different study to that referred to by NRW (A) in our response under REP4-105.68 & REP4-105.69. To clarify, the two studies are:

- Seascape and Visual Sensitivity To Offshore Wind Farms In Wales: Strategic Assessment and Guidance Stage 1- Ready Reckoner Of Visual Effects Related To Turbine Size Simon White, Simon Michaels And Helen King, White Consultants Report No 315, March 2019 (2019 Study)
- Offshore Energy Strategic Environmental Assessment Review and Update of Seascape and Visual Buffer study for Offshore Wind farms Final Report for Hartley Anderson March 2020 (2020 Study)

61. Whilst both studies provide guidance on the potential impacts of offshore wind turbine developments – and reach 'broadly consistent findings'[2] - it is the 2019 Study that forms part of NRW's evidence base and which is relevant to Welsh waters specifically. The 2020 Study was prepared to inform the Department for Business, Energy and Industrial Strategy's OESEA4 Environmental Report, March 2022. The OESEA4 Report confirms the 2019 Study remains relevant and that its findings are applicable to Welsh Waters:

62. 'White Consultants (2020a) considered the thresholds of average low magnitude of effect detailed above to indicators for minimum thresholds as it is considered that effects could still be significant at around these distances for high sensitivity receptors. It is noted that the difference in these thresholds of effect compared to the similar exercise undertaken for Wales (NRW 2019) are due to fewer wind farms being considered and a slightly different basis for the assessment. For the purposes of OESEA4, it is considered that those values in NRW (2019) are relevant to Welsh waters and that those presented in White Consultants (2020a) are relevant to English waters. While the analysis in White Consultants (2020a) included wind farms in Scottish waters, this area is not covered by the draft plan/programme'. [3] (our emphasis)

63. The Applicant incorrectly states the 2020 Study 'supersedes' the 2019 Study. It does not. The 2020 Study was undertaken for a different purpose. As

[2] Offshore Energy Strategic Environmental Assessment Review and Update of Seascape and Visual Buffer study for Offshore Wind farms Final Report for Hartley Anderson March 2020 Paragraph 13.66

[3] UK Offshore Energy Strategic Environmental Assessment Future Leasing/Licensing for Offshore Renewable Energy, Offshore Oil & Gas and Gas Storage and Associated Infrastructure OESEA4 Environmental Report Prepared by Department for Business, Energy and Industrial Strategy, March 2022, Pages 368-9

confirmed in the 2020 Study[4], it supersedes a similar study undertaken by White Consultants in 2016 for the previous (OESEA3) Environmental Report. The 2020 Study confirms the relevance of NRW's 2019 Study:

'The NRW (2019) reports which have larger buffer distances are considered to remain a valid expression of the analysis carried out on a slightly different basis and with slightly fewer wind farms considered. These should continue to form a basis for consideration within Welsh waters but the updated findings of this SEA can also inform these discussions'[5].

64. As above, the conclusions reached in the two studies are broadly consistent, and the 2019 Study is relevant to the consideration of the likely impacts of offshore wind turbine developments within Welsh Waters (i.e. the Mona Array). Our previous comments which address the 2019 Study remain relevant and valid.

2.1.3 Comments on the Applicant's Response to REP4-105.77

65. We disagree with the Applicant's statement that at certain viewpoints it was necessary to split the cumulative wirelines. For example, at Viewpoint 24: Bull Bay, Amlwch [PDF Page 12 in REP3-046], it would have been possible to capture both the Mona and Awel-y-Mor Arrays within one 90 degree field of view, without splitting the Arrays across two separate images. The split at Viewpoint 24 is particularly problematic because it occurs within the Mona Array, which disrupts the legibility of the Array. Whilst the Applicant states they needed to split the images in order to capture the coast at either edge of the view, we advise the relationship between the coast and offshore waters is already depicted in the 180° panoramic photographs [e.g. PDF Page 6 in APP-108]. The priority for the cumulative wireframes should have been the impact of the two schemes in combination, avoiding any unnecessary splits between the Arrays (Mona and Awel y Mor) being assessed.

2.2 WFD Compliance Assessment: Onshore Works

66. No further comments to make at this time and our previous comments remain valid (REP5-098 section 2.2).

2.3 Air Quality

67. No further comments to make at this time and our previous comments remain valid (REP3-090 section 2.3).

[4] Offshore Energy Strategic Environmental Assessment Review and Update of Seascape and Visual Buffer study for Offshore Wind farms Final Report for Hartley Anderson March 2020, Introduction

[5] Offshore Energy Strategic Environmental Assessment Review and Update of Seascape and Visual Buffer study for Offshore Wind farms Final Report for Hartley Anderson March 2020, Paragraph 7.82

2.4 Ecology (Terrestrial)

2.4.1 Comments on the Applicant's Response to NRW Deadline 3 Submissions REP5-059

68. NRW (A) note the response in relation to our comments and principally we welcome the updates in regard to the updated Outline Landscape and Ecology Management Plan (REP5-035). However, below we have provided some further comments.

69. We note the comments for REP3-090.224, however, it appears there is an error with the cross referencing in the document. Clarification is sought.

70. We note the submission by the Applicant in regard to REP3-090.281. However, we consider that St Asaph Business Park and its environs supports a nationally important population of great crested newt with current conservation status being unfavourable. Our suggested targets were based on favourable as opposed to unfavourable levels. The Applicant is reminded of the requirement to restore populations to their favourable as opposed to current conservation status. We would have no objection to targets being agreed at a later date.

71. The content of the Applicant's submission is noted at REP3-090.282. The existing long-term great crested newt (GCN) compensations are subject to pond management works under conservation licences. The NRW legacy body Countryside Council for Wales (CCW) historically received guidance from the European Commission (EC) that conservation licences are required when the habitat of listed species is subject to natural change, e.g. succession or natural; event e.g. a flood. In our view, pond management is likely to cause damage to GCN pond breeding sites or resting places or cause disturbance, death or injury to amphibians at any time of year. We therefore advise that conservation licences are required for the management of habitats post construction of the proposal.

72. We note the Applicant's comments to REP3-090.291, our comments are as follows:

    1. The long term monitoring component will be limited to the ecology area around the substation and the sustainable drainage system (SuDS) pool.
    2. We do not consider 2-3 torch counts and a Habitat Suitability Index Survey to cause unnecessary disturbance. This approach is entirely in line with all other large scale mitigation schemes in north Wales and annual surveillance associated with designated sites. Existing surveillance data for St Asaph Business Park and its environs indicates the overall site satisfies the selection criteria for notification as a Site of Special Scientific Interest (SSSI).
    3. The Applicant appears to be unclear of licensing approaches in Wales. Licences now include two end dates. The first end date is the date for completion of licensable activities. The second date is the requirement for long term post development monitoring.

4. The Applicant also appears to be unclear as to the material component provisions of the definition of conservation status. Conservation status assessment require consideration over multiple generations. The life span of GCN is considered to be up to 12-15 years.
5. We advise that annual monitoring is carried annually for the life span of the project.
6. Given a range of factors including unfavourable current conservation status, the national significance of the St Asaph GCN population and the existing requirement for long term annual monitoring associated with the Gwynt y Mor Mitigation Area, we wish to reiterate the annual surveillance requirement, which we surmise will be carried out by the future occupier of the ecology area,
7. We note a proposal to undertake surveillance every five years. In our view, this is unsatisfactory for the purposes of demonstrating no detriment to the maintenance of the favourable conservation status of the population of GCN at this site. This requirement is entirely consistent with all other major sites for GCN in North Wales.

73. We note the Applicant's comments for REP3-090.302, in respect of post development monitoring see above.

2.4.2 Comments on the Outline Landscape and Ecology Management Plan REP5-035

74. We welcome the updated Outline Landscape and Ecology Management Plan and are generally satisfied with the amendments. However, we do have some further comments, and these are as follows. We have some comments as follows:

75. The Applicant's amendment for Section 1.6.1.15 is noted. We advise that tenure transfer completion date is included in the licence method statement.

76. We advise inclusion of an additional section (1.6.1.16) in order to identify an ecological compliance auditor. We advise the appointment of an ecological compliance auditor should be from an externally appointed body.

77. We note section 1.9.6.4, however, we disagree with this statement, in our opinion, the conservation management of ponds is a licensable activity at any time of year. The reasons for this include potential disturbance killing or injury to amphibians and implementation of conservation management works is likely to result the loss of vegetation used for egg laying and, in our opinion, it is not possible to manage ponds lawfully without a licence.

78. We note the amendments to Table 1.1, our comments are as follows:

- With regards to Bats, Water Vole and Otter we note and accept the proposals.
- In reference to Hazel dormouse, we note the proposals, however, advise the timing should be May to October.

- In reference to GCN, we note the survey proposals. In respect of timing, we advise that: 1) eDNA surveys are undertaken between mid-April and the beginning of June. 2) Population size class assessments are undertaken between April and mid-May.

79. We note the revisions to Section 1.11.6**.** We do not concur with the submitted proposals, see above for further detail. In summary, the proposals are unsuitable for the purposes of demonstrating no detriment to the maintenance of the favourable conservation status of the applicable local population of the species.

80. Within Appendix D section 1.6, there is no reference made to the ecological compliance audit. In our view external ecological compliance audit will be required.

81. We note Appendix D sections 1.6.5.4-1.6.5.7, in our view, proposed monitoring does not accord with extant long term schemes or with our requirement. As identified above the proposals are not satisfactory for the purposes of informing actions required to maintain or restore the local GCN population to its favourable, as opposed to current conservation status. We would expect the body identified in paragraph 1.6.5.7 to be responsible for long term monitoring as well as management.

2.5 Water Quality (Surface and Groundwater)

82. No further comments to make at this time and our previous comments remain valid (REP3-090 section 2.5).

2.6 Flood Risk

83. No further comments to make at this time and our previous comments remain valid (REP3-090 section 2.6).

2.7 Materials and Waste

84. No further comments to make at this time and our previous comments remain valid (REP3-090 section 2.7).

3 MARINE LICENSING

85. Within REP5-098 NRWs Marine Licensing Team (MLT) set out outstanding matters in relation to the drafting of the DCO and deemed Marine Licence. NRW MLT have reviewed the Applicants Deadline 5 submission which included an updated draft DCO (REP5-006). NRW consider that outstanding matters as summarised within REP5-098 remain.

86. NRW MLT recognise that amendments have been made to the drafting of the schedule 14 of the DCO in response to the Applicant removing the provision for high order UXO clearance from the deemed Marine Licence. We however note the following;

- **Schedule 14, Condition 20 – Underwater Sound Management Strategy**

  The condition has been amended in a manner that no longer requires the UWSMS to be submitted and approved prior to clearance of unexploded ordnance. However, the UWSMS [REP5-028] provided by the Applicant at Deadline 5 contains detail relating to both piling and UXO clearance which is proposed to be finalised post consent. Therefore, it would appear that the Strategy should require approval prior to UXO clearance taking place. The condition should therefore be amended accordingly.

- **Schedule 14, condition 2(e) and condition 13 (8),(9)**

  We would advise a minor amendment take place to the drafting of the above provision. Rather than reference to "*clearance of low order unexploded ordinance*" we consider drafting should be in line with the definition provided, that is "*low order unexploded ordinance clearance*".

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Appendix 1: Offshore Ornithology – NRW (A)'s detailed comments / conclusions on Mona project EIA scale cumulative assessments following Applicant's updated cumulative assessments submitted in REP5-075

87. This is a technical document submitted into the Mona project Examination to provide scientific justification for NRW (A)'s advice provided on the significance of the potential impacts at the Environmental Impact Assessment (EIA) scale from the project cumulatively with other plans and projects, as summarised within each section. Our advice is based on best available evidence at the time of writing and is subject to change in the future should further evidence be presented.

1.1 EIA impacts from collision risk from Mona project cumulatively with other plans and projects

1.1.1 Gannet, kittiwake and herring gull

88. As shown in ***Table A1.1*** below, the indicative cumulative collision risk assessments, including gap filled projects, updated Morgan and Morecambe Generation Assets figures and the addition of Llŷr 1 suggest that the predicted cumulative collision mortalities would not exceed 1% of baseline mortality for gannet, kittiwake and herring gull. This could therefore be considered to be undetectable against background mortality and hence we can agree with the Applicant that **cumulative collision impacts would not result in a significant adverse effect (i.e. no greater than minor adverse effect) for cumulative EIA scale for gannet, kittiwake, and herring gull.**

89. With regard to gannet, we note that it appears that the Applicant has not considered any accounting for macro avoidance of gannet in the cumulative collision assessment for this species. Therefore, if this is the case, it is likely that the gannet indicative cumulative collision total presented in Table 1-19 of REP5-075 could be an overestimate.

Table A1.1 Percentage of baseline mortality for indicative predicted impact levels for cumulative operational collision risk for the Mona project cumulatively with other plans and projects at EIA scale (based on updated cumulative totals presented by Applicant in REP5-075). Average across all age class mortality rates, as used by the Applicant have been used. (Note fulmar and Manx shearwater not considered for cumulative collisions, as 0 collisions predicted from Mona project alone for both species). Highlighted cells indicate where 1% of baseline mortality is exceeded.

	Annual total indicative cumulative CRM prediction* (from tables in REP5-075)	**Largest BDMPS individuals**	**% baseline mortality largest BDMPS****
Gannet (note: assumed no reduction for macro avoidance)	181	661,888	0.14
Kittiwake	635	911,586	0.45

LBBG	291	240,750	1.00
Herring gull	293	217,167	0.79
GBBG	164	17,742	9.71

* Annual collision predictions using species-group avoidance rates (ARs), as advised by SNCBs to Applicant during EWG, and for the consented (where available) plus as built (where consented figures are unavailable) project parameters. Collision predictions rounded to whole birds.
** Based on totals for consented parameters where available and as-built parameters for sites where consented parameter information is not available.

1.1.2 Lesser black-backed gull (LBBG)

90. The Applicant's indicative cumulative collision totals for LBBG of 291 birds including gap filled projects, updated Morgan and Morecambe Generation Assets figures and the addition of Llŷr 1 equates to 1% of baseline mortality of the UK western waters BDMPS scale population (***Table A1.1*** above). We note that there is uncertainty in the predicted collision figures due the uncertainty/variability in the input parameters and some degree of precaution in the cumulative total regarding build out scenarios of projects. It is also worth noting that there is limited evidence and therefore some uncertainty around baseline mortality rates (Horswill & Robinson 2015).

91. In REP5-075, the Applicant has undertaken a LBBG cumulative collision PVA assessment. Using the PVA model undertaken by the Applicant in REP5-075, if the additional mortality from the offshore wind farms is 291 LBBGs per annum (indicative updated cumulative collision mortality figure for the SNCB advised species-group avoidance rate) then:

    - The BDMPS population after 35 years will be 4.8% lower than it would have been in the absence of the additional mortality (see Table 1-28 of REP5-075).
    - The BDMPS population growth rate would be reduced by 0.1% (see Table 1-28 of REP5-075).

92. The LBBG is classified as '*Least Concern*' in the GB IUCN2a assessment (Stanbury et al. 2024). The species is Amber listed in BoCC 5a (Stanbury et al. 2024) due to the International importance of the UK breeding population, with the UK supporting a large proportion of the North Atlantic biogeographical populations (>30%) (Burnell et al. 2023).

93. Based on the above, the cumulative collision mortality is unlikely to be detectable against background mortality and we agree with the Applicant's conclusion of no significant adverse effect (i.e. no greater than minor adverse effect) from cumulative collision to LBBG at an EIA scale.

1.1.3 Great black-backed gull (GBBG)

94. The Applicant's indicative cumulative collision totals for GBBG of 164 birds including gap filled projects, updated Morgan and Morecambe Generation Assets figures and the addition of Llŷr 1 exceeds 1% of baseline mortality of the south-west and Channel BDMPS scale population (Furness 2015) – the

indicative figure using the SNCB advised species-group avoidance rate and including all gap filled projects, using consented parameters where available and as-built where consented information is not available, equates to 9.7% of baseline mortality of the BDMPS population (***Table A1.1*** above). This is not insignificant and requires further consideration.

95. In our Deadline 4 response [REP4-105], NRW (A) advised that we are unable to rule out a moderate adverse, i.e. significant adverse impact, on GBBG from cumulative collision mortality at an EIA scale. This advice was based on a cumulative collision total of 163 birds, which is only 1 bird less than the revised cumulative total now presented by the Applicant in REP5-075. **Therefore, our advice regarding GBBG EIA scale cumulative collision impacts remains that we are unable to rule out a moderate adverse, i.e. significant adverse impact** (further details on the justifications for this conclusion can be found in paragraph 93 of REP4-105).

96. As we have noted in paragraph 94 of REP4-105, in the case of the Mona Offshore windfarm project, we recognise and welcome the commitment already made to raise turbine draught height to 30m above Mean Sea Level (Environmental Statement - Volume 6, Annex 5.3: Offshore ornithology collision risk modelling technical report Table 1.5, APP-093). Therefore, we are content that the Applicant has provided proportionate mitigation for GBBG at their project.

1.2 EIA impacts from displacement impacts from Mona project cumulatively with other plans and projects

97. We welcome that the Applicant has considered, in REP5-075, the indicative predicted cumulative displacement impacts including the gap-filled projects for the range of SNCB advised % displacement and % mortality rates. We again note that NRW (A) does not recommend that displacement is assessed for kittiwake as we currently consider the evidence base to be insufficient (as advised to the Applicant at Preliminary Environmental Information Report (PEIR) stage and in our Relevant and Written Representations). Hence, we have not provided advice/comment on the cumulative kittiwake displacement assessment.

Table A1.2 Percentage of baseline mortality for indicative predicted impact levels for cumulative operational displacement for the Mona project cumulatively with other plans and projects at EIA scale (including results of Applicant's gap-filling for historical projects from REP3-044 and updated Morgan and Morecambe Generation figures and inclusion of Llŷr 1 from REP5-075), using mortality used by the Applicant

	Annual total indicative cumulative abundance (from tables in REP5-075)	**Indicative cumulative displacement mortality (from tables in REP5-075)***	**Largest BDMPS individuals**	**% baseline mortality largest BDMPS**	**Combined indicative cumulative displacement mortality plus underwater collision mortality**	**% baseline mortality largest BDMPS**
Guillemot	111,412	334-7,799	1,145,528	0.22-***5.12***	388-7,853	0.25-***5.15***

Razorbill	19,569	59-1,370	606,915	0.06-***1.31***	83-1,394	0.08-***1.34***
Puffin	9,255	28-648	1,482,791	0.01-0.25	29-649	0.01-0.25
Gannet	8,505	51-680	661,888	0.04-0.53	105-734***	0.08-0.57
Manx shearwater	35,589	107-2,491	1,821,518**	0.05-***1.05***	-	-

*Displacement predictions based on ranges for operation of 30-70% for auks and Manx shearwater and 60-80% for gannet. All based on 1-10% mortality for all species. Lower figure relates to the lower displacement and mortality rates, upper figure relates to the upper displacement and mortality rates.
** As per joint NRW/NE interim advice regarding demographic rates, EIA scale mortality rates and reference populations sent to BP by NE on 26th March 2024. Note only a minor difference for Manx shearwater: Applicant used 1,821,544 individuals, NRW/NE interim advice updated figure to 1,821,518. Does not alter overall conclusions.
**** Note: there is an apparent inconsistency across submission documents regarding the number of annual gannet mortalities from underwater collisions: Table 5.98 of the updated ES Chapter [REP4-007] gives an annual underwater gannet collision total of 54, whilst paragraph 1.3.5.4 of REP5-075 states that the annual underwater collision total is 1 bird. We have utilised the ES chapter figure in our figures and associated advice.

1.2.1 Puffin and gannet

98. The indicative cumulative displacement and underwater collision risk (where appropriate) assessments, including gap filled projects, suggest that the predicted cumulative mortalities would not exceed 1% of baseline mortality even at the worst-case scenario of the advised SNCB ranges of % displacement and mortality for puffin and gannet (see ***Table A1.2***). This could therefore be considered to be undetectable against background mortality and hence we can agree with the Applicant that **cumulative displacement (plus underwater collision) impacts would not result in a significant adverse effect (i.e. no greater than minor adverse effect) for cumulative EIA scale for puffin, and gannet**.

1.2.2 Razorbill

99. For razorbill cumulative operational displacement, the indicative predicted cumulative mortality exceeds 1% of baseline mortality for the worst-case scenario of 70% displacement and 10% mortality (see ***Table A1.2***). However, we note it is only at the upper end of the NRW (A) advised range of % displacement and % mortality scenarios (i.e. at between 50-60% displacement and above and at 8-10% mortality, see ***Table A1.3***) where the predicted cumulative impact exceeds 1% baseline mortality, even when the underwater collision mortalities are included.

Table A1.3 Percent of baseline mortality (using average across all age class mortality rates, as used by the Applicant) that predicted razorbill cumulative operational displacement impacts equate to of largest BDMPS for NRW (A) preferred range of 30-70% displacement and 1-10% mortality (note covers Applicant's preferred rates of 50% displacement and 1% mortality) for indicative cumulative totals including gap-filled projects, updated Morgan and Morecambe Generation Assets figures and addition of Llyr 1. Shaded cells are those where 1% of baseline mortality is exceeded

Displacement (%)	**% Baseline mortality of largest BDMPS***						
	Mortality rate (%)						
	1	**2**	**4**	**5**	**6**	**8**	**10**

30	0.06	0.11	0.23	0.28	0.34	0.45	0.56
40	0.07	0.15	0.30	0.37	0.45	0.60	0.75
50	0.09	0.19	0.37	0.47	0.56	0.75	0.94
60	0.11	0.23	0.45	0.56	0.67	0.90	1.12
70	0.13	0.26	0.52	0.66	0.79	1.05	1.31

* Largest BDMPS: 606,915

100. The Applicant has, within REP5-075, undertaken a razorbill cumulative displacement PVA assessment. Using the PVA model undertaken by the Applicant in REP5-075, if the additional mortality from the offshore wind farms is 83-1,394 razorbills per annum (indicative updated cumulative displacement plus underwater collision mortality figures across the range of SNCB advised % displacement and % mortality rates: 30-70% displacement and 1-10% mortality) then:

- The BDMPS population after 35 years will be 0.6-9% lower than it would have been in the absence of the additional mortality (see Table 1-32 of REP5-075).
- The BDMPS population growth rate would be reduced by 0.0-0.3% (see Table 1-32 of REP5-075).

101. Based on the above, we agree with the Applicant's conclusions that cumulative displacement (plus underwater collision) impacts would not result in a significant adverse effect (i.e. no greater than minor adverse effect) for cumulative EIA scale for razorbill.

1.2.3 Guillemot

102. For guillemot cumulative operational displacement, based on the indicative cumulative figures following the addition of the gap filled projects, updated Morgan Generation and Morecambe Generation Assets figures and the addition of predicted impacts from Llŷr 1 presented by the Applicant in Table 1-7 of REP5-075, the total annual cumulative number of guillemots to be at risk of displacement for all projects is estimated to be 111,412 guillemots at risk of displacement. For the NRW (A) recommended rates of 30-70% displacement and 1-10% mortality, the indicative number of predicted additional cumulative mortalities including the gap filled projects, amended Morgan and Morecambe figures and additional Llŷr 1 figure is between 334 (30% displacement and 1% mortality) and 7,799 (70% displacement and 10% mortality) guillemots. This equates to 0.22-5.12% of baseline mortality for the largest BDMPS. At the Applicant's preferred rates of 50% displacement and 1% mortality this equates to 0.37% of baseline mortality of the largest BDMPS (***Table A.4***). This is significant at the upper level of the displacement/mortality range that the SNCBs advise for auks (70% displacement and 10% mortality) and therefore requires further consideration.

103. ***Table A1.4*** below indicates that when considering the indicative cumulative totals including the gap-filled projects and updated and additional

projects, for the SNCB recommended range of 30-70% displacement and 1-10% mortality and the predicted impacts against baseline mortality for the largest BDMPS:

- 1% of baseline mortality of the largest BDMPS is not exceed for any displacement scenario (30-70%) at 1% mortality and at 2% mortality for all displacement scenarios except between 60-70%;
- At 4% mortality, 1% of baseline mortality is exceeded when displacement exceeds 30%.
- At 5%-10% mortality, 1% of baseline mortality is exceeded at all displacement rates from 30-70%.

Table A1.4 Percent of baseline mortality (using average across all age class mortality rates, as used by the Applicant) that predicted guillemot cumulative operational displacement impacts equate to of largest BDMPS for NRW (A) preferred range of 30-70% displacement and 1-10% mortality (note covers Applicant's preferred rates of 50% displacement and 1% mortality) for indicative cumulative totals including gap-filled projects, updated Morgan and Morecambe Generation Assets figures and addition of Llyr 1. Shaded cells are those where 1% of baseline mortality is exceeded

Displacement (%)	**% Baseline mortality of largest BDMPS***						
	Mortality rate (%)						
	1	**2**	**4**	**5**	**6**	**8**	**10**
30	0.22	0.44	0.88	1.10	1.32	1.76	2.19
40	0.29	0.58	1.17	1.46	1.76	2.34	2.92
50	0.37	0.73	1.46	1.83	2.19	2.92	3.66
60	0.44	0.88	1.76	2.19	2.63	3.51	4.39
70	0.51	1.02	2.05	2.56	3.07	4.10	5.12

* Largest BDMPS: 1,145,528

104. When additional mortalities from underwater collisions from wave/tidal projects are added (54 mortalities in total from underwater collisions) the annual cumulative EIA scale mortality becomes 388-7,853 guillemot mortalities per annum, which equates to 0.25-5.15% of baseline mortality (***Table A1.2***).

105. We welcome that the Applicant has within REP5-075 undertaken an updated guillemot cumulative displacement PVA assessment to include the indicative cumulative impacts including the gap-filled projects, updated Morgan and Morecambe Generation Assets figures, the addition of impacts from Llŷr 1 and also included the additional mortalities from underwater collisions. We also welcome that the PVA tool input parameter log file for this PVA has been included in Section A.1.2 of Appendix A of REP5-075.

Table A1.5 Predicted population impacts on the guillemot BDMPS population for the range of mortality impacts predicted for cumulative displacement. PVA impact metrics are as provided in Table 1-24 of REP5-075.

Displacement scenario	**Additional mortality (displacement plus**	**% baseline mortality largest BDMPS (from**	**Counterfactual of Final Population Size (CPS)**	**Counterfactual of Growth Rate (CGR) (from Table 1-**

	underwater collision)	Table 1-23 of REP5-075)	(from Table 1-24 of REP5-075)	24 of REP5-075)
30% displacement, 1% mortality	388	0.25	0.986	1.000
50% displacement, 1% mortality	611	0.40	0.979	0.999
70% displacement, 10% mortality	7,853	5.15	0.757	0.992

106. Using the PVA model undertaken by the Applicant in REP5-075, if the additional mortality from the offshore wind farms is 388-7,853 guillemots per annum (indicative updated cumulative displacement plus underwater collision mortality figures across the range of SNCB advised % displacement and % mortality rates: 30-70% displacement and 1-10% mortality) then:

- The BDMPS population after 35 years will be 1.4-24.3% lower than it would have been in the absence of the additional mortality (Table A.5).
- The BDMPS population growth rate would be reduced by 0.0-0.8% (Table A.5).

107. Guillemot are listed as Amber on BoCC5a (Stanbury et al. 2024) and have recently been uplisted to 'Vulnerable' in the latest IUCN2a update (Stanbury et al. 2024).

108. While there is some empirical evidence to support the displacement levels for auks, we do not know what the likely mortality impacts of displacement are. We therefore consider it appropriate to consider a range of mortalities from 1-10%. However, on the basis that the projects that have been scoped into the cumulative assessment largely lie in areas of the UK western waters that represent low to medium levels of guillemot density during both the breeding (where relevant) and non-breeding seasons (MERP), it is assumed that areas of low/medium density will be less important/desirable feeding areas and therefore mortality impacts of displacement from less good areas would be lower than displacement from optimal/important areas. Therefore, we do not expect mortality rates to be at the top of the range considered.

109. Based on the above, we advise a significant adverse impact to guillemot from cumulative operational displacement (plus underwater collision) can be ruled out at an EIA scale.

1.2.4 Manx shearwater

110. For Manx shearwater cumulative operational displacement, the indicative predicted cumulative mortality just exceeds 1% of baseline mortality (1.05%) for the worst-case scenario of 70% displacement and 10% mortality. However, we note it is only at this particular % displacement and % mortality

scenario across the whole SNCB advised range of advised rates (30-70% displacement and 1-10% mortality) where the predicted impact exceeds 1% baseline mortality (see Table A.6 below).

Table A1.6 Percent of baseline mortality (using adult mortality rate, as used by the Applicant) that predicted Manx shearwater cumulative operational displacement impacts equate to of largest BDMPS for NRW (A) preferred range of 30-70% displacement and 1-10% mortality (note covers Applicant's preferred rates of 50% displacement and 1% mortality) for indicative cumulative totals including gap-filled projects, updated Morgan and Morecambe Generation Assets figures and addition of Llyr 1. Shaded cells are those where 1% of baseline mortality is exceeded

Displacement (%)	**% Baseline mortality of largest BDMPS***						
	Mortality rate (%)						
	1	**2**	**4**	**5**	**6**	**8**	**10**
30	0.05	0.09	0.18	0.23	0.27	0.36	0.45
40	0.06	0.12	0.24	0.30	0.36	0.48	0.60
50	0.08	0.15	0.30	0.38	0.45	0.60	0.75
60	0.09	0.18	0.36	0.45	0.54	0.72	0.90
70	0.11	0.21	0.42	0.53	0.63	0.84	1.05

* Largest BDMPS: 1,821,518, as per joint NRW/NE interim advice regarding demographic rates, EIA scale mortality rates and reference populations sent to BP by NE on 26th March 2024. Note only a minor difference for Manx shearwater: Applicant used 1,821,544 individuals, NRW/NE interim advice updated figure to 1,821,518. Does not alter overall conclusions.

111. The Applicant has within REP5-075 undertaken a Manx shearwater cumulative displacement PVA assessment. Using the PVA model undertaken by the Applicant in REP5-075, under the worst-case scenario of 70% displacement and 10% mortality (only scenario within advised range where 1% of baseline mortality is exceeded) if the additional mortality from the offshore wind farms is up to 2,491 Manx shearwaters per annum, then:

- The BDMPS population after 35 years will be up to 10.1% lower than it would have been in the absence of the additional mortality (see Table 1-30 of REP5-075).
- The BDMPS population growth rate would be reduced by up to 0.3% (see Table 1-30 of REP5-075).

112. Based on the above, we would agree with the Applicant's conclusions that cumulative displacement impacts would not result in a significant adverse effect (i.e. no greater than minor adverse effect) for cumulative EIA scale for Manx shearwater.

1.3 EIA Impacts from operational collision risk + displacement for gannet from Mona project cumulatively with other plans and projects

113. We welcome that the Applicant has considered the cumulative combined impacts of displacement plus collision on gannet in Section 1.5 of REP5-075. We again note that as NRW (A) does not recommend that displacement is

assessed for kittiwake we have not provided advice/comment on the kittiwake combined cumulative collision plus displacement assessment presented by the Applicant in Section 1.5 of REP5-075.

Table A1.7 Combined indicative cumulative collision plus displacement mortalities and percentage of baseline mortality for gannet at EIA scale (including results of Applicant's gap-filling for historical projects from REP3-044 and updated Morgan and Morecambe Generation figures and inclusion of Llŷr 1 from REP5-075), using average across all age class mortality rates, as used by the Applicant

	Gannet predicted mortalities per annum (rounded to whole birds)		
Cumulative wind farm collision, including gap filled projects (Table 1-19 of REP5-075)*	181		
Cumulative underwater collision (Table 5.98 of REP4-007)**	54**		
Cumulative displacement: 60% D, 1% M (Table 1-12 of REP5-075)	51		
Cumulative displacement: 80% D, 10% M (Table 1-12 of REP5-075)	680		
Cumulative collision plus displacement		**Largest BDMPS individuals**	**% baseline mortality largest BDMPS**
Combined cumulative collision + displacement (with 60% D, 1% M)	286	661,888	0.22
Combined cumulative collision + displacement (with 80% D, 10% M)	915	661,888	0.72

* Assumed no reduction for macro avoidance in CRM has been applied by Applicant. Total collision figure based on consented parameters for other projects where available and as-built where consented information unavailable

** There is an apparent inconsistency across submission documents regarding the number of annual gannet mortalities from underwater collisions: Table 5.98 of the updated ES Chapter [REP4-007] gives an annual underwater gannet collision total of 54, whilst paragraph 1.3.5.4 of REP5-075 states that the annual underwater collision total is 1 bird. We have utilised the ES chapter figure in our figures and associated advice.

114. Based on ***Table A1.7*** above, the combined indicative impact of operational collision plus displacement to gannet from Mona cumulatively with other plans and projects including gap filled projects equals between 286 birds per annum when a 60% displacement and 1% mortality rate is used and up to 915 birds per annum when an 80% displacement and 10% mortality rate is used. These predicted figures both equate to less than 1% of baseline mortality and hence could be considered to be undetectable against background mortality. Therefore, we can agree with the Applicant that **cumulative displacement plus collision impacts would not result in a significant adverse effect (i.e. no greater than minor adverse effect) for cumulative EIA scale for gannet**.

Appendix 2: Offshore Ornithology - NRW (A)'s detailed comments / conclusions on outstanding Mona project HRA scale impacts following Applicant's Deadline 5 submissions

115. This document is a technical document submitted into the Mona project Examination to provide scientific justification for NRW (A)'s advice provided on the significance of the potential impacts for outstanding Habitats Regulations Assessment (HRA) scale issues from the project alone and in-combination with other plans and projects, as summarised within each section. Our advice is based on best available evidence at the time of writing and is subject to change in the future should further evidence be presented.

1. SKOMER, SKOKHOLM & SEAS OFF PEMBROKESHIRE (SSSP) SPA: MANX SHEARWATER

1.1 Impacts from Mona project in-combination with other plans and projects: operational displacement

116. Based on Table 1.11 of REP5-074, the in-combination displacement total calculated by the Applicant is 67-1,561 adult Manx shearwaters (rounded to whole birds) from the SSSP SPA per annum (based on 30-70% displacement and 1-10% mortality). This exceeds 1% of baseline mortality of the colony at the worst-case scenario of the advised range (see ***Table A2.1***). This therefore requires further consideration, and we welcome that the Applicant has within REP5-074 undertaken an SSSP SPA Manx shearwater in-combination displacement PVA assessment for the worst-case scenario of 70% displacement and 10% mortality.

117. We note it is only at the upper end of the NRW (A) advised range of % displacement and % mortality scenarios (i.e. at between 50-60% displacement and above and at 8-10% mortality, see ***Table A2.1***) where the predicted cumulative impact exceeds 1% baseline mortality.

Table A2.1 Percent of baseline mortality for predicted annual in-combination displacement impact levels for Manx shearwater for SSSP SPA for NRW (A) preferred range of 30-70% displacement and 1-10% mortality – baseline mortality calculated using adult only colony size (910,312 breeding adults – 2018 mean count) and adult mortality rate (13% from Horswill & Robinson 2015)

Displacement (%)	**% Baseline mortality of SSSP SPA colony**						
	Mortality rate (%)						
	1	**2**	**4**	**5**	**6**	**8**	**10**
30	0.06	0.11	0.23	0.28	0.34	0.45	0.57
40	0.08	0.15	0.30	0.38	0.45	0.60	0.75
50	0.09	0.19	0.38	0.47	0.57	0.75	0.94
60	0.11	0.23	0.45	0.57	0.68	0.90	1.13
70	0.13	0.26	0.53	0.66	0.79	1.05	1.32

118. Manx shearwater numbers at the SSSP SPA have increased by 201% from Seabird 2000 to the most recent Seabird Count Census (Burnell et al. 2023):

Seabirds 2000 Census count of 151,000 Apparently Occupied Sites (AOS) (302,000 adults) undertaken in 1998, Seabirds Count Census count 0f 455,156 AOS (910312 adults) undertaken in 2018. Over this time many of the offshore wind farms (OWFs) included in the in-combination assessments have been constructed and become operational. Hence as the colony population has continued to increase, it would suggest they have not been adversely impacted by the operation of the OWFs. Additionally, the PVA suggests that for an impact of up to 1,561 Manx shearwaters per annum (predicted impact for worst case scenario of 70% displacement and 10% mortality), the Manx shearwater population of the SPA will be able to continue growing beyond its current level, even with the additional impact from the OWFs, as indicated by a growth rate above 1, and the Counterfactual of Growth Rate is 0.998 (see Table 1.21 and Figure 1.5 of REP5-074). This suggests that there will be only a small impact on the growth rate in comparison to baseline conditions. Hence there will remain a thriving Manx shearwater population at the site and the Conservation Objective target population of 300,000 adults (150,000 pairs)[6] would be achieved. On the basis of these figures, NRW advises that an adverse effect on site integrity (AEoSI) can be ruled out beyond reasonable scientific doubt for predicted displacement impacts on the Manx shearwater feature from the Mona project in-combination with other plans and projects for the SSSP SPA.

2. SKOMER, SKOKHOLM & SEAS OFF PEMBROKESHIRE (SSSP) SPA: SEABIRD ASSEMBLAGE

2.1 Impacts from Mona project in-combination with other plans and projects: kittiwake (collision)

119. We again note that NRW (A) does not recommend that displacement is assessed for kittiwake as we currently consider the evidence base to be insufficient (as advised to the Applicant at Preliminary Environmental Information Report (PEIR) stage and in our Relevant and Written Representations). Hence, we have not provided advice/comment on the in-combination kittiwake displacement or combined collision + displacement assessment. We therefore welcome that in REP5-074 the Applicant has produced an in-combination collision only table and has also undertaken a PVA for in-combination SSSP SPA kittiwake collision separately, as well as one for collision + displacement.

120. The in-combination collision total calculated by the Applicant in Table 1.6 of REP5-074 is 11 adult kittiwakes (rounded to whole birds) from the SSSP SPA per annum for all projects including gap-filled historic projects, updated Morgan and Morecambe Generation Assets figures and Llŷr 1. This predicted in-combination collision impacts equates to 2.29% of baseline mortality of the colony based on the 2024 count as used by the Applicant. This therefore requires further consideration, and we welcome that the Applicant has within REP5-074 undertaken an SSSP SPA kittiwake in-combination collision PVA assessment.

[6] Currently available conservation objective target populations for SSSP SPA available from: https://naturalresources.wales/media/673958/Skomer.Skokholm%20management%20plan%2007.pdf

121. Using the PVA model undertaken by the Applicant in REP5-074, if the additional mortality from the offshore wind farms is 11 kittiwakes per annum (indicative in-combination collision mortality) then:

- The BDMPS population after 35 years will be 13.4% lower than it would have been in the absence of the additional mortality (see Table 1.18 of REP5-074).
- The BDMPS population growth rate would be reduced by 0.4% (see Table 1.18 of REP5-074).

122. The Applicant's in-combination collision PVA suggest that the SSSP SPA kittiwake population would decline due to the in-combination impact. We note that tracking data (e.g. from Trevail et al. 2019) suggest that it is unlikely that kittiwakes from the SSSP SPA will forage in the Irish Sea area, or within the TwinHub site off Cornwall. Therefore, it is likely that the breeding season apportionment values calculated by the Applicant for the Irish Sea projects and TwinHub project included in the in-combination assessment and hence the apportioned in-combination collision impacts to the colony in the Applicant's assessment are overly precautionary.

123. Based on consideration of the above, the in-combination collision impact to SSSP SPA is considered to be likely to be below 1% of baseline mortality of the colony, and be unlikely to be detectable against background mortality. Therefore, the Conservation Objective target population for the seabird assemblage of 67,000 individuals2 would be achieved and hence, no AEoSI can be concluded for this component of the seabird assemblage feature of the site for predicted collision impacts from the project in-combination with other plans and projects.

124. However, as kittiwake is not a qualifying feature of the SSSP SPA in its own right, it is a named component of the seabird assemblage feature, this should be considered in the wider context of the assemblage feature and consideration of the assemblage feature Conservation Objectives. Therefore, see **Section 2.4** below for the overall conclusion of significance of effect on this qualifying feature.

2.2 Impacts from Mona project in-combination with other plans and projects: guillemot (displacement)

125. Based on Table 1.7 of REP5-074, the in-combination displacement total calculated by the Applicant is 29-677 adult guillemots (rounded to whole birds) from the SSSP SPA per annum for all projects including gap-filled historic projects, updated Morgan and Morecambe Generation Assets figures and Llŷr 1 (based on 30-70% displacement and 1-10% mortality). This equates to 1.19-27.82% of baseline mortality of the colony and is significant across the entire range of advised rates (as shown by Table 1.8 of REP5-074) and therefore requires further consideration. Therefore, we welcome that the Applicant has within REP5-074 undertaken an SSSP SPA guillemot in-combination displacement PVA assessment for the scenarios of 70% displacement and 2% mortality and the worst-case scenario of 70% displacement and 10% mortality.

126. The count data from seabird 2000 through to counts in 2022 shows an increase from 14,848 individual guillemots in 2000 to 37,305 individual guillemots in 2022. Over this time many of the offshore wind farms (OWFs) included in the in-

combination assessments have been constructed and become operational. Hence as the colony population has continued to increase, it would suggest they have not been adversely impacted by the operation of the OWFs. Additionally, the PVA suggests that for an impact of up to 677 guillemots per annum (predicted impact for worst case scenario of 70% displacement and 10% mortality), the guillemot population of the SPA will be able to continue growing beyond its current level, even with the additional impact from the OWFs, as indicated by a growth rate above 1, and the Counterfactual of Growth Rate is 0.981 (see Table 1.19 and Figure 1.3 of REP5-074). This suggests that there will be only a small impact on the growth rate in comparison to baseline conditions. Hence there will remain a thriving guillemot population at the site and the Conservation Objective target population for the seabird assemblage of 67,000 individuals2 would be achieved. Hence, no AEoI can be concluded for this component of the seabird assemblage feature of the site for predicted displacement impacts from the project in-combination with other plans and projects.

127. As guillemot is not a qualifying feature of the SSSP SPA in its own right, it is a named component of the seabird assemblage feature, this should be considered in the wider context of the assemblage feature and consideration of the assemblage feature Conservation Objectives. Therefore, see **Section 2.4** below for the overall conclusion of significance of effect on this qualifying feature.

2.3 Impacts from Mona project in-combination with other plans and projects: razorbill (displacement)

128. Based on Table 1.15 of REP5-074, the in-combination displacement total (rounded to whole birds) calculated by the Applicant is 2-35 adult razorbills (rounded to whole birds) from the SSSP SPA per annum for all projects including gap-filled historic projects, updated Morgan and Morecambe Generation Assets figures and Llŷr 1 (based on 30-70% displacement and 1-10% mortality). This exceeds 1% of baseline mortality of the colony at several scenarios across the advised range (see ***Table A2.2***) and we welcome that the Applicant has within REP5-074 undertaken an SSSP SPA razorbill in-combination displacement PVA assessment for the worst case scenario of 70% displacement and 10% mortality.

Table A2.2 Percent of baseline mortality for predicted annual in-combination displacement impact levels for razorbill for SSSP SPA for NRW (A) preferred range of 30-70% displacement and 1-10% mortality – baseline mortality calculated using adult only colony size (14,846 breeding adults, as used by Applicant) and adult mortality rate (10.5% from Horswill & Robinson 2015)

Displacement (%)	**% Baseline mortality of SSSP SPA**						
	Mortality rate (%)						
	1	**2**	**4**	**5**	**6**	**8**	**10**
30	0.10	0.19	0.39	0.49	0.58	0.77	0.97
40	0.13	0.26	0.52	0.65	0.77	1.03	1.30
50	0.16	0.32	0.65	0.81	0.96	1.28	1.62
60	0.19	0.39	0.78	0.97	1.15	1.54	1.95
70	0.23	0.45	0.91	1.14	1.35	1.80	2.27

129. The count data from seabird 2000 through to counts in 2022 shows an increase from 5,140 individual razorbills in 2000 to 14,157 individual razorbills in 2022. Over this time many of the offshore wind farms (OWFs) included in the in-combination assessments have been constructed and become operational. Hence as the colony population has continued to increase, it would suggest they have not been adversely impacted by the operation of the OWFs. Additionally, the PVA suggests that for an impact of up to 35 razorbills per annum (predicted impact for worst case scenario of 70% displacement and 10% mortality), the razorbill population of the SPA will be able to continue growing beyond its current level, even with the additional impact from the OWFs, as indicated by a growth rate above 1, and the Counterfactual of Growth Rate is 0.997 (see Table 1.23 and Figure 1.7 of REP5-074). This suggests that even at the worst-case scenario of 70% displacement and 10% mortality there will be only a small impact on the growth rate in comparison to baseline conditions. Hence there will remain a thriving razorbill population at the site and the Conservation Objective target population for the seabird assemblage of 67,000 individuals2 would be achieved. Hence, no AEoI can be concluded for this component of the seabird assemblage feature of the site for predicted displacement impacts from the project in-combination with other plans and projects.

130. As razorbill is not a qualifying feature of the SSSP SPA in its own right, it is a named component of the seabird assemblage feature, this should be considered in the wider context of the assemblage feature and consideration of the assemblage feature Conservation Objectives. Therefore, see ***Section 3.4*** below for the overall conclusion of significance of effect on this qualifying feature.

2.4 Impacts from Mona project in-combination with other plans and projects: seabird assemblage (collision and displacement)

131. The seabird assemblage is a qualifying feature of the SSSP SPA in its own right. The Conservation Objective for the seabird assemblage feature states that:

132. During the breeding season the SPA will regularly support at least 67,000 individual seabirds of the following species, most of which also qualify independently as SPA features:

- Puffin
- Manx shearwater
- European storm petrel
- Lesser black-backed gull
- Guillemot
- Razorbill
- Kittiwake

133. Based on the Applicant's assessments and those of NRW (A) submitted during the examination, including those set out above, for each individual qualifying feature and named component of the assemblage, as well as expert judgement NRW (A) considers that the abundance target (67,000 individuals) of the assemblage will be met and that the diversity of species making up the assemblage is not at risk from the in-combination collision and displacement impacts from offshore wind farms. Therefore, the Conservation Objective can be met, and we advise **that an AEoSI of**

the seabird assemblage feature of the SSSP SPA can be ruled out beyond reasonable scientific doubt for collision and displacement impacts in-combination with other plans and projects.

3. ABERDARON COAST & BARDSEY ISLAND (AC & BI) SPA: MANX SHEARWATER

134. Based on Table 1.9 of REP5-075, the in-combination displacement total calculated by the Applicant is 3-81 adult Manx shearwaters (rounded to whole birds) from the AC & BI SPA per annum (based on 30-70% displacement and 1-10% mortality). This exceeds 1% of baseline mortality of the colony at the worst-case scenario of the advised range (see Table A2.3). This therefore requires further consideration, and we welcome that the Applicant has within REP5-075 undertaken an AC & BI SPA Manx shearwater in-combination displacement PVA assessment for the worst-case scenario of 70% displacement and 10% mortality.

135. We note it is only at the upper end of the NRW (A) advised range of % displacement and % mortality scenarios (i.e. at between 50-60% displacement and above and at 8-10% mortality, see Table A2.3) where the predicted cumulative impact exceeds 1% baseline mortality.

Table A2.3 Percent of baseline mortality for predicted annual in-combination displacement impact levels for Manx shearwater for AC & BI SPA for NRW (A) preferred range of 30-70% displacement and 1-10% mortality – baseline mortality calculated using adult only colony size (41,350 breeding adults – 2018 count) and adult mortality rate (13% from Horswill & Robinson 2015)

Displacement (%)	**% Baseline mortality of largest BDMPS***						
	Mortality rate (%)						
	1	**2**	**4**	**5**	**6**	**8**	**10**
30	0.06	0.13	0.26	0.32	0.39	0.52	0.65
40	0.09	0.17	0.34	0.43	0.52	0.69	0.86
50	0.11	0.22	0.43	0.54	0.65	0.86	1.08
60	0.13	0.26	0.52	0.65	0.78	1.02	1.29
70	0.15	0.30	0.60	0.75	0.91	1.21	1.51

136. Manx shearwater numbers at the AC & BI SPA have increased by 28% from Seabird 2000 to the most recent Seabird Count Census (Burnell et al. 2023): Seabirds 2000 Census count of 16,183 Apparently Occupied Sites (AOS) (32,366 adults) undertaken in 2001, Seabirds Count Census count of 20,675 AOS (41,350 adults) undertaken in 2015. Over this time many of the offshore wind farms (OWFs) included in the in-combination assessments have been constructed and become operational. Hence as the colony population has continued to increase, it would suggest they have not been adversely impacted by the operation of the OWFs. Additionally, the PVA suggests that for an impact of up to 81 Manx shearwaters per annum (predicted impact for worst case scenario of 70% displacement and 10% mortality), the Manx shearwater population of the SPA will be able to continue growing beyond its current level, even with the additional impact from the OWFs, as indicated by a growth rate above 1, and the Counterfactual of Growth Rate is 0.998 (see Table 1.20 and Figure 1.4 of REP5-075). This suggests that even at the worst-

case scenario of 70% displacement and 10% mortality there will be only a small impact on the growth rate in comparison to baseline conditions. Hence there will remain a thriving Manx shearwater population at the site and the Conservation Objective target population of 20,000 adults (10,000 pairs) would be achieved. On the basis of these figures, **NRW advises that an adverse effect on site integrity (AEoSI) can be ruled out beyond reasonable scientific doubt for predicted displacement impacts on the Manx shearwater feature from the Mona project in-combination with other plans and projects for the AC & BI SPA.**

4. LIVERPOOL BAY SPA: RED-THROATED DIVER (RTD), COMMON SCOTER

137. The Applicant has removed high-order clearance for unexploded ordnance (UXO) clearance from Schedule 14, condition 21 of the updated draft DCO [REP5-006]. We welcome that the Applicant has now committed to the seasonal restriction between 1 November – 31 March now applying to all UXO clearance activities (low order) and cable installation vessels undertaking active cable installation within the Liverpool Bay/Bae Lerpwl SPA, as set out in paragraph 1.3.1.1 of the updated 'Measures to minimise disturbance to marine mammals and rafting birds' document [REP5-030]. We also note that this measure will apply to the Mona Offshore Cable Corridor, including between the offshore extent of the Liverpool Bay/Bae Lerpwl SPA and the entry/exit location of the trenchless technique installation works at the landfall, within the nearshore waters of the Liverpool Bay/Bae Lerpwl SPA (as set out in paragraph 1.3.1.2 of REP5-030). The commitment to the timing restriction of no offshore export cable installation or low order UXO clearance activities during the period 1 November to 31 March within the Liverpool Bay SPA is included in reference number 2 of the updated Mitigation and Monitoring Schedule [REP5-024]. The commitment to the 'measures to minimise disturbance to marine mammals and rafting birds' has also been included in reference number 110 of REP5-024.

138. We also welcome that the Marine licence principles document [REP5-022] has been updated to remove high order UXO clearance from the NRW marine licence application and an addition has been made to REP5-022 to include information on the seasonal restriction and to note that this is expected to be secured through the Transmission Licence (NRW ML).

139. Additionally, we note the Applicant's assessment of impacts of pre-commencement works on the non-breeding red-throated diver and common scoter qualifying features of the SPA, particularly with regard to visual disturbance from vessel movements, in APP-033 and the revised assessment in REP3-083 in the Applicant's response to Examining Authority RIES question 3.3.9.

140. Therefore, based on the Applicant's commitment to the application of the seasonal restriction to works within the SPA for both export cable installation activities and UXO clearance, the other measures contained within REP5-030 to further reduce disturbance to rafting birds, combined with the low and temporary impact of remaining pre-commencement activities, **NRW (A) can now agree that and AEoSI of the non-breeding red-throated diver and common scoter qualifying features of the Liverpool Bay/Bae Lerpwl SPA can be ruled out from both the Mona project alone and in-combination with other plans and projects**.