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MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Applicant's Response to IP submissions submitted at Deadline 3

Deadline: 4

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Image of an offshore wind farm

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Contents

Tables

Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Department for Energy Security and Net Zero (DESNZ)	The Department for Energy Security and Net Zero (DESNZ) is focused on the energy portfolio from the former Department for Business, Energy and Industrial Strategy (BEIS).
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Morgan Offshore Wind Project.
Evidence Plan Process	The Evidence Plan process is a mechanism to agree upfront what information the Applicant needs to supply to the Planning Inspectorate as part of the Development Consent Order (DCO) applications for the Morgan Offshore Wind Project.
Expert Working Group (EWG)	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process.
Inter-array cables	Cables which connect the wind turbines to each other and to the offshore substation platforms. Inter-array cables will carry the electrical current produced by the wind turbines to the offshore substation platforms.
Interconnector cables	Cables that may be required to interconnect the Offshore Substation Platforms in order to provide redundancy in the case of cable failure elsewhere.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for a DCO to apply for a 'deemed' marine licence as part of the DCO process.
Maximum Design Scenario (MDS)	The scenario within the design envelope with the potential to result in the greatest impact on a particular topic receptor, and therefore the one that should be assessed for that topic receptor.
Morgan Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, offshore export cables and offshore substation platforms (OSPs) forming part of the Morgan Offshore Wind Project will be located.
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).
Morgan Offshore Wind Project: Generation Assets PEIR	The Morgan Generation Assets Preliminary Environmental Information Report (PEIR) that was submitted to The Planning Inspectorate (on behalf of the Secretary of State) for the Morgan Offshore Wind Project: Generation Assets.
Morgan Offshore Wind Project: Generation Assets Scoping Report	The Morgan Scoping Report that was submitted to The Planning Inspectorate (on behalf of the Secretary of State) for the Morgan Offshore Project: Generation Assets.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The transmission assets for the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. This includes the Offshore Substation Platforms (OSPs), interconnector cables, Morgan offshore booster station, offshore export cables, landfall site, onshore export cables,

Term	Meaning
	onshore substations, 400kV grid connection cables and associated grid connection infrastructure such as circuit breaker infrastructure (as defined in the Morgan and Morecambe Offshore Wind Farms: Transmission Assets PEIR).
National Policy Statement (NPS)	The current national policy statements published by the Department for Energy Security & Net Zero in 2024.
Offshore Substation Platform (OSP)	The offshore substation platforms located within the Morgan Array Area will transform the electricity generated by the wind turbines to a higher voltage allowing the power to be efficiently transmitted to shore.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees (see non-statutory consultee definition).
Wind turbines	The wind turbine generators, including the tower, nacelle and rotor.
The Planning Inspectorate	The agency responsible for operating the planning process for NSIPs.

Acronyms

Acronym	Description
AFBI	Agri-Food and BioSciences Institute
BDMPS	Biologically Defined Minimum Population Scales
CEA	Cumulative Effects Assessment
CMS	Construction Method Statement
CRM	Collision Risk Modelling
CSIMP	Cable Specification, Installation and Monitoring Plan
DCO	Development Consent Order
DDV	Drop Down Video
dML	Deemed Marine Licence
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ES	Environmental Statement
GAM	Generalised Additive Model
HRA	Habitat Regulations Assessment
ISH	Issue Specific Hearing
ISAA	Information to Support Appropriate Assessment
INNS	Invasive Non Native Species
IPMP	In Principle Monitoring Plan
JNCC	Joint Nature Conservation Committee

Acronym	Description
LSE	Likely Significant Effect
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario
MERP	Marine Ecosystems Research Programme
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MPCP	Marine Pollution Contingency Plan
MU	Management Unit
NAS	Noise Abatement Strategy
NIGFS	Northern Irish Ground Fish
NRW	Natural Resources Wales
OFLCP	Outline Fisheries Liaison Coexistence Plan
OSPAR	Oslo and Paris (convention for the Protection of the Marine environment of the North-East Atlantic)
OWEC	Offshore Wind Evidence and Change
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PTS	Permanent Threshold Shift
PVA	Population Viability Analysis
SEL	Sound Exposure Level
SNCB	Statutory Nature Conservation Body
RR	Relevant Representation
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest
SSSP	Skomer, Skokholm and Seas of Pembrokeshire
TTS	Temporary Threshold Shift
UWN	Underwater Noise
USWMS	Underwater Sound Management Strategy
UXO	Unexploded Ordinance
WCS	Worst Case Scenario
WR	Written Representations

Units

Unit	Description
km	kilometre
m	Metre

1 Applicant's response to IP D3 submissions

1.1 Introduction

1.1.1.1 Following Deadline 3, Morgan Offshore Wind Limited (the Applicant), has taken the opportunity to review each of the submissions received from stakeholders.

1.1.1.2 Details of the Applicant's response to each of the Interested Party's (IP) submissions are set out in the subsequent sections of this document and its annex.

1.1.1.3 The Applicant has numbered the responses to submissions in line with the Planning Inspectorate's document library with subsequent paragraph numbering.

1.1.1.4 Following two annexes were produced to support the Applicant's response:

- S_D4_6.1: Annex 6.1 to the Applicant's response to Written Representations from MMO at Deadline 3: Cod Spawning Period
- S_D4_6.2: Annex 6.2 to the Applicant's response to Written Representations from MMO at Deadline 3: Queen Scallop

2 RESPONSES TO IP'S D3 SUBMISSION

2.1 Marine Management Organisation

Table 2.1: REP3-037 – Marine Management Organisation.

Reference	MMO's submission	Applicant's response
REP3-037.36	**2. Comments on the Applicant's first update to the draft Development Consent Order (REP2-011)** • The MMO is currently reviewing the Draft DCO/DML and will look to provide a full response by Deadline 4. The MMO has however, noticed amendments to the draft DCO/DML as a result of previous comments raised by the MMO and other independent parties (IP's) during the Examination process. The MMO's previous comments are listed in Table 2 below with reference made to the changes and further requests from the MMO.	The Applicant notes the response from the MMO.
REP3-037.37	**Table 2. Comments on the updated draft Development Consent Order** **Ref** RR-020.2 **MMO's Deadline 3 Response** The MMO thanks the Applicant for providing a separate document (REP2-006) which shows compliance with all policies contained within the North West Inshore and North West Offshore Marine Plan Policy. The MMO now considers this point resolved.	The Applicant notes and welcomes the response from the MMO.
REP3-037.38	**Ref** RR-020.3 **MMO's Deadline 3 Response** Pease see response to RR-020.2 above.	The Applicant notes and welcomes the response from the MMO.
REP3-037.39	**Ref** RR-020.5 **MMO's Deadline 3 Response**	The Applicant updated the draft DCO at Deadline 3 to specify UXO activities as a standalone activity in each dML and specified that the maximum number of UXO that can be cleared as part of the Proposed Development is 13.

Reference	MMO's submission	Applicant's response
	The MMO notes that there has been no change to the draft DCO regarding UXO clearance. The request detailed at Deadline 2 is still open and the MMO will look to see a response from the Applicant in their Deadline 3 submission and if there have been any amendments in future submissions.	
REP3-037.40	**Ref** RR-020.6-8 **MMO's Deadline 3 Response** The MMO notes that Article 13 has been removed in its entirety from the DCO (REP2-011) and thanks the Applicant for the resolution. The MMO now considers this point resolved.	The Applicant notes and welcomes the response from the MMO.
REP3-037.41	**Ref** RR-020.9- 16 **MMO's Deadline 3 Response** The MMO has provided substantive comments on this within its Deadline 2 response. The MMO will look to see a response from the Applicant in their Deadline 3 response and for updates on this point in future submissions.	The Applicant has already provided an adequate explanation of the reasons why it seeks to include article 7 in the draft DCO. This is set out in particular within the Explanatory Memorandum [REP3-015] and within the Applicant's Response to Relevant Representations [PD1-017 at ID RR-020.9]. As explained in the Explanatory Memorandum, the article is well precedented, being included in the Norfolk Boreas Offshore Wind Farm Order 2021, the Norfolk Vanguard Offshore Wind Farm Order 2020, the East Anglia One North Offshore Wind Farm Order 2022, the East Anglia Two Offshore Wind Farm Order 2022, the Awel y Môr Offshore Wind Farm Order 2023, the Hornsea Project Four Offshore Wind Farm Order 2023 and the Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024. The principle of including such an article and the specific wording has been repeatedly accepted by the Secretary of State. The Applicant acknowledges that the MMO disagrees with the inclusion of such an article where its provisions extend to any deemed marine licences included within a DCO, and that the MMO has sought to argue against it consistently in DCO Examinations. However, the MMO's argument has been repeatedly rejected by the Secretary of State. The reason that precedent is a useful reference in the determination of planning applications is that it removes a need to focus time and effort re-considering matters that have been previously settled, unless there is a specific reason in any one case to do so. The Applicant respectfully

Reference	MMO's submission	Applicant's response
		suggests that there is no exceptional reason to depart from well-established precedent in respect of this matter. The Applicant therefore submits that the reasons for and drafting of Article 7 are justified.
REP3-037.42	**Ref** RR-020.17- 23 **MMO's Deadline 3 Response** The MMO has provided substantive comments within its Deadline 2 submission regarding the use of maintain and materially within the DCO and dML. The MMO will seek a response from the Applicant regarding this and will look for any updates in future Applicant submissions.	The Applicant updated the definition of "maintain" within the draft DCO at Deadline 3 to address the MMO's concerns.
REP3-037.43	**Ref** RR-020.24 **MMO's Deadline 3 Response** The MMO has provided comments on this in its Deadline 2 response. The MMO awaits a response from the Applicant regarding this and will look for any changes during Examination.	Please see the response to REP3-037.41
REP3-037.44	**Ref** RR-020.25 **MMO's Deadline 3 Response** The MMO has noted the amendments actioned by the Applicant regarding paragraph 9 in Schedules 3 and 4 of the draft DCO (REP2-011) and thanks the Applicant for making the requested amendment. The MMO now considers this point resolved.	The Applicant notes and welcomes the response from the MMO.
REP3-037.45	**Ref** RR-020.26- 27 **MMO's Deadline 3 Response** The MMO has provided comments on this in its Deadline 2 response. The MMO awaits a response from the Applicant regarding this and will look for any changes during Examination.	The Applicant will continue to discuss timings for submission and approval of plans to discharge conditions and hopes to agree a position before the close of the Examination.
REP3-037.46	**Ref**	The Applicant notes and welcomes the response from the MMO.

Reference	MMO's submission	Applicant's response
	RR-020.28 **MMO's Deadline 3 Response** The MMO notes that the Applicant has amended the wording of condition 13(3) to state the following. (3) An operations and maintenance plan in accordance with the outline operations and maintenance plan must be submitted to the MMO for approval in writing at least four months prior to commencement of the operation of licensed activities. All operation and maintenance activities must be carried out in accordance with the approved plan. The MMO now considers this point resolved.	
REP3-037.47	**Ref** RR-020.29 **MMO's Deadline 3 Response** The MMO notes that the Applicant has made the requested changes to the condition wording which now reads: (4) All operation and maintenance activities must be carried out in accordance with the plan approved under subparagraph (3). The MMO now considers this point resolved.	The Applicant notes and welcomes the response from the MMO.
REP3-037.48	**Ref** RR-020.30 **MMO's Deadline 3 Response** The MMO notes that this requested change has not been made in the latest updated version of the Draft DCO submitted by the Applicant at Deadline 2. This issue is still outstanding.	The Applicant acknowledges that this minor update was previously omitted. This has been updated in the draft DCO submitted at Deadline 4.
REP3-037.49	**Ref** RR-020.31 **MMO's Deadline 3 Response** The MMO is still reviewing this and will provide an update in due course.	The Applicant notes the response from the MMO.
REP3-037.50	**Ref** RR-020.32	The Applicant awaits confirmation from the MMO that this point has been suitably addressed, The Applicant does not consider any further amendments are necessary.

Reference	MMO's submission	Applicant's response
	MMO's Deadline 3 Response Once the final condition wording has been updated the MMO will provide confirmation of agreement.	
REP3-037.51	**Ref** RR-020.33 **MMO's Deadline 3 Response** The MMO is still reviewing this point and will provide further comments on this at Deadline 4.	The Applicant notes the response from the MMO.
REP3-037.52	**3. Comments on the progress tracker or Statement of Commonality (REP2-008)** 3.1. The MMO attended a meeting with the Applicant on 24 October 2024 and 5 November 2024 in which the categorisation of issues listed in the Statement of Common Ground (SoCG) were discussed. There was no disagreement between the MMO and the Applicant as to the status of any listed issues.	The Applicant notes the response and thanks the MMO for the engagement on the project.
REP3-037.53	3.2. The MMO agrees with the statement in Table 1.3 of the document regarding the SoCG with the MMO in that the Applicant is making positive progress to resolve matters. Ongoing issues relate mainly to fish and shellfish, as discussed in sections 4 and 5 respectively, along with ongoing issues relating to marine mammals, coastal processes, and the draft DCO/dML.	The Applicant notes the response and thanks the MMO for the engagement on the project.
REP3-037.54	3.3. The MMO is aware that the Applicant is actioning comments raised with reference to fish and shellfish. The MMO awaits the provision of the requested information from the Applicant scheduled for Deadline 3. The MMO will review the provided information and will work with the Applicant on the remaining 'ongoing points of discussion' points in the SoCG.	The Applicant notes the response and thanks the MMO for the engagement on the project and will review the MMO's response.
REP3-037.55	3.4. There are several points which are an ongoing point of discussion regarding Marine Policy, draft DCO, and the draft dML. These have been discussed in more detail in Table 1 of the MMO's Deadline 2 Submission. The MMO awaits the Applicant's Deadline 3 submission to see if any of these requests have been actioned. The MMO has provided a review of the updated draft DCO/dML in section 2 of this submission.	The Applicant notes the response and thanks the MMO for the engagement on the project and will review the MMO's D4 response.

Reference	MMO's submission	Applicant's response
REP3-037.56	3.5. The MMO welcomes future engagement with the Applicant and hopes to resolve the remaining points on our SoCG in a timely manner.	The Applicant notes the response and looks forward to future engagement with the MMO.
REP3-037.57	**4. Comments on Applicant's DL1 Submissions with Regards to Fish Species, Seasonal Piling Restrictions and Underwater Sound Management Strategy** 4.1. For the benefit of the ExA, the MMO has provided the below comments to the Applicant on 28 October 2024. The Applicant has thanked the MMO for the provision of the detailed comments and has informed the MMO in a meeting dated 5 November 2024 that the requested information will be provided during the Examination process. The MMO will review the response and provide comment following this.	The Applicant notes the MMO's response on this topic.
REP3-037.58	4.2. Underwater Sound Management Strategy (UWSMS) 4.2.1. The MMO notes that the UWSMS represents a live document which will evolve and be updated as more information is assembled on the project design post-consent. As highlighted in the MMO's Deadline 2, the MMO requests that NAS (bubble curtain) is required for ALL high order clearance, and it is in the interest of the Applicant to plan for this at the earliest opportunity.	The response is noted by the Applicant who refers MMO to the response provided to REP2-029.90 within REP3-004. In this, the Applicant highlighted that in discussions with the MMO, Cefas and Natural England (24/10/2024) it was considered that the UWSMS was sufficient to manage appropriate mitigation for UXO clearance. This includes the use of NAS, if required, for high order clearance although noting that it is possible to implement other measures to mitigate up to a size of ~130kg (most likely scenario). The Applicant will also consider the use of NAS in the context of any potential forthcoming changing government policy with respect to management of underwater sound in the marine environment as part of the development of the UWSMS post consent. The Applicant highlights that any measures will need to be agreed with relevant stakeholders prior to undertaking the clearance campaign and reiterates that this agreement will be managed via the final UWSMS. In this respect, the MMO has complete control of the mitigation requirements from a licencing perspective as currently proposed. The approach ensures that concerns regarding underwater sound impacts can be fully addressed with appropriate and proportionate measures implemented, where necessary, based upon the final project design and construction schedule and taking account of underwater sound policy at that time.
REP3-037.59	4.2.2. Regarding Table 1.4 of the UWSMS, the MMO disagrees that with the statement "there were no significant effects on cod due to piling activities for the Project alone". There is evidence missing in the assessment of impacts from piling on cod and the risks to cod from	The Applicant maintains the position that the project will not result in significant effects on cod spawning when considered alone, but a moderate significant effect has been predicted when the project is considered cumulatively with other projects.

Reference	MMO's submission	Applicant's response
	underwater noise (UWN) from piling as presented in the ES were not considered to be within acceptable limits, hence the recommendation of a piling restriction during the cod spawning season. The MMO requests that this table is amended to highlight that there is potential for adult spawning cod to be disturbed by UWN from piling activities at the Morgan OWF alone and cumulatively with other projects piling at the same time.	In any case, the Applicant acknowledges the risk of underwater sound impacts to spawning cod and as such cod has specifically been included as a key species within the Outline Underwater Sound Management Strategy (UWSMS) (APP-068). The aim of this is to manage the effects of underwater sound on spawning cod with mitigation focused on the management of contributions to cumulative underwater sound inputs by the Morgan Generation Assets. As such, these measures will likewise manage effects on cod due to the Project alone, and therefore, the difference between the Project alone and cumulative impact significance for cod in relation to underwater sound generated by piling is considered immaterial. All potential mitigation measures are cited within the UWSMS and will therefore, be duly considered once the final design and construction scheduling is clear. The MMO will be consulted throughout the development of the final UWSMS, and approval from MMO will be required to discharge the consent condition related to the UWSMS. The information set out within the UWSMS will include consideration of both the project alone specifics and also the latest available information on other projects that have the potential to cumulative impact these receptors. The MMO has complete control of the mitigation requirements from a licencing perspective as currently proposed. The approach ensures that concerns regarding underwater sound impacts can be fully addressed with appropriate and proportionate measures implemented, where necessary, based upon the final project design and construction schedule and taking account of underwater sound policy at that time.
REP3-037.60	4.2.3. The UWSMS includes the use of noise abatement systems (NAS) as mitigation measures to reduce the range of impact from piling UWN for sensitive receptors. The Applicant's statement that "in the UK thus far, offshore wind developers have not been required to employ such systems" and that "NAS have not been used specifically for mitigation of sound impacts on fish species" is incorrect. Whilst there is currently no legal requirement for the use of NAS, bubble curtains and other noise abatement technologies are widely used within marine and offshore industries, and their use is often required by stakeholders and regulators, as a mechanism through which UWN disturbances in relation to sensitive receptors including fish can be mitigated. The MMO reminds the Applicant	The Applicant has included NAS as a mitigation strategy within the UWSMS (APP-068), alongside other measures including spatial and temporal phasing of piling operations. The Applicant notes the concerns raised by the MMO on the point of procurement of these measures and is comfortable with the potential for procurement of these post consent, if required. The Applicant reiterates the commitment to consider NAS as part of the strategy to mitigate effects of underwater noise on fish and the Applicant agrees with the MMO that the available NAS technologies would offer effective mitigation to reduce the magnitude of piling noise on sensitive fish populations, should these be required. Details of the NAS currently available are set out in section 1.8.2.9 of the UWSMS, noting that

Reference	MMO's submission	Applicant's response
	that procurement of these technologies is typically required years in advance of works commencing, and the Applicant should be considering at this stage what NAS will be required to reduce the UWN disturbance to fish species to within acceptable levels. The MMO highlights this now as it is the Applicant's risk if noise abatement strategies are required and there is a delay in construction due to lack of availability at the time these requirements are identified.	the available technology at the time of construction may be different to those set out in the UWSMS, due to technological developments in the intervening years.
REP3-037.61	4.2.4. The MMO supports the commitment to develop the UWSMS and is content for this to be developed post-consent, however, a specific strategy, technology or approach for reducing the range of impact from UWN on cod and herring has not been outlined, and therefore the MMO does not consider that the commitment to develop the UWSMS alone is sufficient to remove the need for seasonal piling restrictions during the cod and herring spawning seasons.	The Applicant refers to section 1.8 of the UWSMS, which details further mitigation measures which could be considered post consent for the Final UWSMS which includes spatial phasing, temporal phasing and NAS (both at source and barrier mitigation). The Final UWSMS will detail which specific mitigation measures are required (which may include temporal phasing, or NAS), based upon the refined project design parameters and finalised construction programme, post consent. Information on NAS options which are currently available are set out in section 1.8.2.9 of the UWSMS, noting that the available technology at the time of construction may be different to those set out in UWSMS, due to technological developments in the intervening years. As detailed in section 1.8.2.9, the NAS options currently available have been demonstrated to reduce underwater sound by at least 10 dB and up to 20 dB, depending on the NAS option(s) selected. The Applicant will also consider the use of NAS in the context of any potential forthcoming changing government policy with respect to management of underwater sound in the marine environment as part of the development of the UWSMS post consent. As set out in the UWSMS, the final mitigation strategy employed to reduce noise impacts on cod and herring will depend on the final scheme design when it is clear what piling in required (e.g. number of foundations requiring piling, hammer energies expected at different locations, expected piling durations etc.). Once these final design parameters are known, the specific mitigation measures required to reduce effects on cod and herring will be discussed and agreed with the MMO and other relevant stakeholders. As detailed in the UWSMS, this may include working in particular seasons to avoid/minimise overlap with sensitive spawning periods or it may include the use of NAS at certain times of the year to ensure the extent of any potential noise effects (i.e. reduced noise propagation into the wider environment) on fish spawning are reduced to an acceptable level. The final mitigation measures would be discussed

Reference	MMO's submission	Applicant's response
		and agreed with the MMO who would have ultimate sign off of the UWSMS.
REP3-037.62	4.3. Applicant's Response to Seasonal Piling Restrictions 4.3.1. The MMO notes that the information contained within the Annex 4.4. does not appear to provide any substantive evidence supporting a potential refinement of the seasonal piling restrictions for either cod or herring but appears to be more of a general position statement that the Applicant considers seasonal piling restrictions disproportionate to the risk of disturbance and harm to fisheries receptors during their sensitive spawning seasons.	The Applicant maintains this position that the UWSMS represents the best method for managing the risks of underwater noise effects from piling on sensitive fish and marine mammal species as this provides flexibility in the mitigation strategy to adapt to changing technologies (e.g. developments in NAS) and changing government policy with respect to management of underwater noise in the marine environment. Temporal phasing is one of the elements of the mitigation strategy which will be considered post consent, but a blanket seasonal restriction is considered over-precautionary given there are other mitigation options available.
REP3-037.63	4.3.2. The MMO recognises the implications to the piling programme and construction schedule which may result from the implementation of seasonal piling restrictions during the cod and herring spawning seasons.	The Application welcomes the recognition of this issue and welcomes further engagement with the MMO on the UWSMS.
REP3-037.64	4.3.3. The MMO highlights that if the Applicant chooses to deploy gravity base foundations instead of piled multileg foundations, as outlined in the ES, then ground-strengthening of multiple locations using approximately 15 piles per location will still be required. It therefore seems likely that piling in some form will be required for the Morgan OWF project, but there are no defined noise reduction commitments within the UWSMS for cod and herring specifically.	The Applicant would note that it is only the case that piling **may** be required for ground strengthening of some gravity base foundations. It is stated in Volume 1 Chapter 3: Project description [APP-010], 3.5.8.17 that if ground strengthening is required, it can be achieved either with piles or suction buckets. Therefore, it is not a given that any piling would be required. It has only been included as a precaution and therefore, assessed as part of the MDS for underwater sound. As set out above, section 1.8.2 of the UWSMS sets out the mitigation measures which will be considered for cod and herring, and these include noise reduction technologies such as NAS.
REP3-037.65	4.3.4. Whilst piling is being considered as an option for foundation installation, the MMO requests the development of an appropriate noise abatement strategy, so that if piling is the chosen installation methodology, or is necessary to support other foundation types, then the appropriate UWN modelling will have been undertaken, and the necessary noise reduction required to reduce noise disturbance to acceptable levels (which will inform the NAS technologies the project will need to acquire) will have been fully assessed and understood.	At this pre-consent stage the Applicant has set out (within the Outline UWSMS) a comprehensive suite of measures (which are in line with those requested by the MMO and other statutory advisors) from which the most appropriate solution would be selected to reduce underwater sound impacts to acceptable levels (if required). The Applicant can confirm that the process described by the MMO is exactly the process that will happen post consent once the final design and the need for any underwater sound mitigation is established. The Applicant will work closely with the MMO and its advisors through this process to ensure the final UWSMS contains all necessary information and evidence (supported by latest policy) on the specific measure selected, to demonstrate that effects on mammal and fish receptors have been appropriately mitigated. This process of

Reference	MMO's submission	Applicant's response
		developing a bespoke strategy (be that mitigation or monitoring) based around final design is entirely common place within this sector (for example, the MMMP is dependent upon the final piling profiles and schedules and will require updated modelling to confirm specific approaches to the implementation of mitigation).
REP3-037.66	4.3.5. As stated in point 1.2. there is potential for adult spawning cod to be disturbed by UWN from piling activities at the Morgan OWF alone and cumulatively with other projects piling at the same time. The MMO therefore disagrees with the Applicant's statement in this document that there will be no significant effects on cod from UWN due to piling activities form the Morgan OWF, alone. There is evidence missing in the Applicant's assessment of impacts from piling on cod, and the risks to cod from underwater noise (UWN) from piling as presented in the ES were not considered to be within acceptable limits.	Please see response to REP2-037.58.
REP3-037.67	4.4. Response to Applicant's Query Regarding Differences Between Natural Resources Wales (NRW) Advice and MMO Advice Relating to Seasonal Piling Restrictions 4.4.1. The MMO had a question posed by the Applicant regarding the recommended seasonal restriction for cod, based on information provided by NRW for the Mona OWF. NRW had advised that piling activities at the Mona OWF should be restricted to outside the peak spawning activity period (February and March) for cod in order to mitigate the impact of the proposed development on cod species.	The Applicant notes this response.
REP3-037.68	4.4.2. The MMO stated at the Preliminary Environmental Information Report (PEIR) and Section 56 stages that that a temporal restriction on piling activities during the cod spawning season (January to April inclusive) will be necessary for the Morgan OWF.	The Applicant notes this response.
REP3-037.69	4.4.3. NRW has framed its restriction to cover what NRW determines to be the peak spawning activity period (February and March) for cod in the Irish Sea. The MMO's decision for the Morgan OWF covered the whole of the cod spawning season (January to April inclusive) in line with the spawning seasons outlined in Ellis et al., (2012) and Coull et al., (1998).	The Applicant notes the difference in highlighted peak spawning activity periods.
REP3-037.70	4.4.4. The MMO notes that although the Morgan and Mona OWFs are both located in the Irish Sea region, they are different projects, with differing piling schedules, piling parameters and worst-case scenarios for	The Applicant notes this response. The assessment of the Morgan Generation Assets and other nearby projects utilise many of the same published data sources and research, with assessment conclusions for

Reference	MMO's submission	Applicant's response
	piling, and, additionally, are to be located in different areas of the Irish Sea, meaning that the relative overlap of each project with the cod high intensity spawning ground will be different. This means that decisions provided on one project is not directly transferable to another.	each project based on this baseline information, information on species sensitivities, alongside site-specific data and assessments (e.g. modelling outputs). As such there will inevitably be some similarities in the assessments (and assessment conclusions) across the projects in the region. To aid assessment of cod spawning grounds in and around the Morgan Generation Assets and the wider east Irish Sea, the Applicant reviewed and provided a summary of the sources highlighted by the MMO as a long response to REP3-037.74-77 (S_D4_6.1: Annex 6.1 to the Applicant's response to Written Submissions from MMO at Deadline 3: Cod Spawning Period), with this providing evidence to better define the peak cod spawning period in the east Irish Sea.
REP3-037.71	4.4.5. The MMO further notes that the Applicant has not yet presented a compelling evidence-based assessment of cod spawning activity to support a potential refinement of the seasonal piling restriction.	The Applicant has presented the requested evidence-based assessment of cod spawning activity periods in order to aid refinement of the sensitive period for cod, during which mitigation will be targeted (discussed in the responses to REP3-037.75-77 below).
REP3-037.72	4.5. Evidence Necessary for Refining the Recommended Piling Restriction During the Cod Spawning Season 4.5.1. The MMO states that it might be possible to refine decisions of a piling restriction covering the whole of the cod spawning season, provided that the correct evidence is supplied to support refinement.	The Applicant welcomes the MMO's position that refinement may be possible (see the responses to REP3-037.75-77 below).
REP3-037.73	4.5.2. The MMO requests that adequate modelling of the range of impact for physiological effects (mortality and potential mortal injury, recoverable injury, and temporary threshold shift (TTS), as per the pile driving threshold guidelines described by Popper et al. (2014)) with regard to cod, must be provided. Cod are broadcast spawners with pelagic larvae so are not reliant on spatially confined areas of particular seabed habitat for reproduction in the same way that herring are. This means that cod have the ability to move throughout their spawning grounds and undertake spawning, without their ability to spawn being impaired if they cannot reach a specific area or habitat due to excessive noise disturbances. The high and low intensity cod spawning grounds are quite extensive in the region, and therefore behavioural responses to UWN in cod are less of a concern than they are for herring, as in theory, cod could move away from the affected area and spawn elsewhere within their spawning ground. In this sense, the risks of physiological effects in cod from UWN are of	The Applicant has provided mapped ranges for PTS, TTS, and recoverable injury based on Popper *et al*. (2014) thresholds for cod (REP3-005) and has concluded that this gave rise to no significant change compared to the conclusion of the assessment in Volume 2, Chapter 3: Fish and Shellfish Ecology [APP-021]. The Applicant assumes this closes this issue out with the MMO.

Reference	MMO's submission	Applicant's response
	greater concern and it is very important that the range of impact from UWN based on the thresholds for Group 3 fish with high hearing sensitivity for mortality and potential mortal injury (207 cumulative sound exposure level (SELcum)), recoverable injury (203 SELcum), and TTS (186 SELcum), as per the pile driving threshold guidelines described by Popper et al. (2014), are presented so that the physiological risks to cod can be properly assessed. The MMO notes that at the ES, and in the subsequent post-ES response document, the Applicant presented thresholds for mortality and potential mortal injury, recoverable injury, and TTS which were not consistent with the pile driving threshold guidelines described by Popper et al. (2014) and were therefore not acceptable for this purpose.	
REP3-037.74	4.5.3. Secondly, Ellis et al., (2012) denotes the cod spawning season as taking place from January to April inclusive, with peak spawning taking place in February and March. This is potentially what NRW has referenced regarding to the risks to cod from the Mona development. NRW interpretation, however, differs from the MMO's relating to Morgan OWF. In addition to the modelling requested in point 4.2, the MMO requests that a discussion which draws upon suitable peer-reviewed sources and data which provides supporting evidence that cod spawning activity peaks in February and March be provided.	The Applicant welcomes the additional information provided by the MMO in this and subsequent comments, and has considered these data sources in the annex S_D4_6.1: Annex 6.1 to the Applicant's response to Written Submissions from MMO at Deadline 3: Cod Spawning Period.
REP3-037.75	4.5.4. The MMO directs the Applicant to Maxwell et al., (2012) and Armstrong et al., (2012) to support their discussion of peak months for cod spawning in the Irish Sea. Maxwell et al., (2012) used ichthyoplankton survey data from 2008 for Irish Sea plaice, cod and haddock to estimate annual egg production during the 2008 spawning season using advanced generalized additive models (GAM). As part of this study, spatial patterns of modelled and observed egg production for cod were included. For cod, there were clear hot spots for egg production in the east and west Irish Sea. The authors also correlated spatial patterns of modelled and observed egg production with the timing of the ichthyoplankton surveys to examine when cod egg production for the 2008 spawning season peaked.	The Applicant has addressed REP3-037.75-77 in the annex S_D4_6.1: Annex 6.1 to the Applicant's response to Written Submissions from MMO at Deadline 3: Cod Spawning Period.
REP3-037.76	4.5.5. Armstrong et al., (2012) then summarised the results of applications of annual egg production methodologies (including those used by Maxwell et al.,) to estimate the spawning stock biomass of cod and other species in the Irish Sea in 1995, 2000, 2006, 2008, and 2010. Armstrong et al., (2012) expanded the GAM analyses to present the spatial patterns of daily egg production of cod for the years 2006 to 2010. Armstrong et al., (2012)	The Applicant has addressed REP3-037.75-77 in the annex S_D4_6.1: Annex 6.1 to the Applicant's response to Written Submissions from MMO at Deadline 3: Cod Spawning Period.

Reference	MMO's submission	Applicant's response
	also examines the seasonal patterns in egg production fitted by the GAM for spawning in the East and West of the Irish Sea.	
REP3-037.77	4.5.6. Maxwell et al., (2012) and Armstrong et al., (2012) are appropriate sources for informing discussions on temporal refinement of the recommended piling restriction but, given the age of these publications, it would strengthen the Applicant's position for a refinement if updated data were presented in a similar format. This data may take the form of ichthyoplankton data for the Irish Sea to indicate areas of higher or lower cod larval abundance, or Northern Irish Ground Fish data (NIGFS) which could be filtered to separate out female cod caught within each trawl per year and the maturity classes of interest (spawning and spent fish) taken as a subset to characterize where spawning-ready and post-spawning adult female cod are located. The MMO directs the Applicant to the Agri-Food and BioSciences Institute (AFBI) in Northern Ireland to find out what survey data is available for this purpose.	The Applicant has addressed REP3-037.75-77 in the annex S_D4_6.1: Annex 6.1 to the Applicant's response to Written Submissions from MMO at Deadline 3: Cod Spawning Period.
REP3-037.78	5. MMO Response to Applicant's Statement of Common Ground (SoCG) and Pre-Examination Submissions Regarding Shellfish 5.1. For the benefit of the ExA, the MMO has provided the below comments to the Applicant on 31 October 2024. The Applicant has thanked the MMO for the provision of the detailed comments and has informed the MMO in a meeting dated 05 November 2024 that the requested information will be provided during the Examination process. The MMO will review the response and provide comment following this.	The Applicant will provide the specific responses to the provided information in points 5.3 (REP3-037.80) and 5.4 (REP3-037.84) below.
REP3-037.79	5.2. The documents listed below have been reviewed in order to provide a response to issues surrounding shellfish biology. • Applicant's Response to Relevant Representations, RPS Consultants, August 2024, Version No. F01. • Annex 3.1 Applicant's response to Relevant Representation from Marine Management Organisation: Fish and Shellfish 4.6.5, RPS Consultants, August 2024, Version No. F01. • Annex 3.3 Applicant's response to Relevant Representation from Marine Management Organisation: Fish and Shellfish 4.6.12, RPS Consultants, August 2024, Version No. F01.	The Applicant notes this response.

Reference	MMO's submission	Applicant's response
	• Annex 3.2 to the Applicant's response to Relevant Representations from Marine Management Organisation (RR-020): Underwater Sound [Marine mammals], RPS Consultants, August 2024, Version No. F01. • Statement of Common Ground between Morgan Offshore Wind Limited and the Marine Management Organisation, Morgan Offshore Wind Limited, 2024, Version 1.	
REP3-037.80	5.3. Response to Annex 3.3. 5.3.1. The MMO notes that shellfish were not previously highlighted in Marine noise concerns however there is some evidence in literature that seismic pulses (sound exposure level (SEL) of 161 to 165 dB RMS re 1 mPa2) can cause damage to veliger stages of Scallop larvae within close proximity (i.e. Aguilar de Soto et al., (2013).	The Aguilar de Soto *et al*. (2013) paper was considered in Volume 2, Chapter 3: Fish and Shellfish Ecology [APP-021, Paragraph 3.9.3.81], with its findings of damage to scallop larvae examined in the wider context of underwater sound impacts on shellfish larvae. Shellfish has been given specific consideration in the section 3.9.3.73 and the following of APP-021 and particle motion sensitivity of shellfish is also described in detail in Volume 3, Annex 3.1 Underwater sound technical report (APP-028; section 1.10.5). Effects on scallops (both adult and larvae) would be expected to be limited and would not lead to significant effects on the populations. The Aguilar de Soto *et al*. (2013) paper reports effects on scallop larvae exposed larvae to seismic pulses, continuously over a period of 90 hours, which led to effects on larvae including deformities, slower growth rates etc. This scenario is not comparable to that for piling at the Morgan Generation project, where continuous piling would never occur over a 90 hour period in the same area, or within the project boundary as a whole. As set out in APP-021, piling will be intermittent occurrences over this type of timescale. In addition, due to water movement in the Irish Sea, larvae would never be within any particular impact range for an extended duration (e.g. a full piling sequence), but would rather drift in and out of the impact range with the local currents. As such, the scenario presented in the Aguilar de Soto *et al*. (2013) paper is not a realistic representation of the risk posed by underwater piling noise on scallop larvae in the Irish Sea. The findings of this paper do not change the overall conclusion of the assessment, that effects of piling noise on scallops would not be significant in EIA terms.
REP3-037.81	5.3.2. King and Queen scallops represent an abundant shellfish species in the area and the MMO requests that the potential impacts on larval stages be considered when reviewing data or in timings of works to mitigate around times when larvae are likely to be in the water column. Currently these timings in the Irish sea are generally around April to May and then	The Applicant welcomes the additional research to help characterise the baseline for king and queen scallop but maintains that no mitigation is required to reduce effects of underwater piling noise on scallops. The Applicant has considered the additional evidence provided by the MMO, with the Close *et al*. (2024) paper supporting the assessment conclusions.

Reference	MMO's submission	Applicant's response
	August to September, but it is also reported throughout the summer (Close et al., 2024). Consultation with the local fisheries and management organisations is requested to ensure the season is current and reflective.	This paper demonstrates that scallop spawning occurs widely across the Irish Sea, and that the area around the Isle of Man is important as a nursery habitat for king scallop. This was understood through the consultation with relevant stakeholders throughout the assessment in Volume 2, Chapter 3: Fish and Shellfish Ecology [APP-021, Section 3.3], and thus has been incorporated into the assessment conclusion of minor adverse and no significant impact on shellfish. The Applicant was also provided with an updated king scallop fisheries assessment from Bangor University, and this is welcomed and adds to the assessment for queen scallop used in the assessment [APP-021, Paragraph 3.5.5.1]. The provided data indicated similar levels of abundance of king scallop in the same areas surrounding the Isle of Man and therefore do not significantly change the overall assessment conclusion. Furthermore, the Applicant notes that the MMO note (in their response 5.3.4 below) that stock presence and or fishing location may serve as a proxy for spawning locations. The Applicant would highlight that the Scallop Mitigation Zone will ensure there is a significant reduction in the number of foundations within the core scallop grounds. Therefore, this mitigation should provide the necessary comfort with regard to any residual anxiety held by the MMO with regard to noise effects on larvae when they are in proximity to spawning locations.
REP3-037.82	5.3.3. The MMO notes that the Applicant has committed to the development of an Underwater Sound Management Strategy (UWSMS), and the MMO requests that shellfish larval stages (especially King and Queen scallop (*Pecten maximus* and *Aequipecten opercularis*) is considered in this.	The Applicant firmly disagrees that there is any justification for inclusion of scallop larvae within the UWSMS. The overarching aim of the UWSMS is to reduce the magnitude of effect from piling operations to a level such that any residual effects on sensitive marine mammal and fish receptors can be concluded as non-significant in EIA terms. The UWSMS is therefore for those key potential impacts where potentially significant effects were identified during pre-application consultation and based on the best available scientific evidence presented within the impact assessment. While the Applicant accepts that there may be some effects on scallops due to construction operations, including effects on scallops adults and larvae from piling operations, these will not be significant and it is therefore absolutely not appropriate to include scallops in the UWSMS. Finally, and notwithstanding the above, the Applicant would note that while the UWSMS is targeted at specific fish and marine mammal species, any benefits in terms of reduction in the magnitude of noise emissions for

Reference	MMO's submission	Applicant's response
		those target species would also benefit other fish and shellfish receptors due to general reduction in noise levels in the marine environment.
REP3-037.83	5.3.4. The spawning and nursery grounds maps, presented in Annex 3.3) from Coull et al. (1998) and Ellis et al. (2012) are predominantly finfish species and consider Nephrops, however the dominant shellfish species in the area King and Queen scallop (Pecten maximus and Aequipecten opercularis) are not mapped. For these species, locations of fished stocks or fishery footprint may serve as a useful proxy for spawning areas for more sedentary shellfish species therefore the MMO requests that the potential spawning areas for these shellfish species (alongside Nephrops) are included in the maps.	Maps have been produced of fishing ground distribution for queen scallop throughout the Irish Sea in a technical note prepared by ERM (S_D4_6.2: Annex 6.2 to MMO Written Submission at Deadline 3: Queen Scallop). This analysis presents Defra and Isle of Man fisheries statistics and fishing VMS data and demonstrates that queen scallop are distributed across the Irish Sea, extending from North Wales to of the south coast of Scotland. The Applicant notes that while the Volume 4, Annex 3.1: Fish and shellfish technical report (APP-051) did not present maps of all queen and king scallop fishing grounds (and therefore potential spawning habitats) in the Irish Sea, the wider contextual data on these grounds is presented and discussed in section 1.10.2 of the APP-051. As such, the maps provided in (S_D4_6.2: Annex 6.2 to MMO Written Submission at Deadline 3: Queen Scallop) do not change the baseline characterisation presented in APP-051 and confirm that queen scallop are extensively fished outside of the Morgan Offshore Wind Project: Generation Assets. Nor does this change the overall conclusions to the impact assessment presented in APP-021.
REP3-037.84	5.4. Response to Statement of Common Ground Regarding Shellfish 5.4.1. Referencing the MMO's comments above, the MMO does not agree with the agreed comment in Table 1.7 of section 1.4.4. that "The fish and shellfish ecology study area that was defined in the PEIR is appropriate for the baseline characterisation". This is due to the concerns raised in section 5.3 regarding the lack of mapped scallop grounds. The MMO requests that shellfish species are included in spawning maps for the characterisation of the baseline environment.	Please refer to the response above REP3-037.83.
REP3-037.85	5.4.2. Referencing point MMO.FSF.16, in Table 17 of section 1.4.4. the MMO does not agree that "for piling impacts, no significant effects are predicted on fish and shellfish receptors, other than cod and herring during the spawning period" and agree that this is an ongoing point of discussion. As noted above the MMO request evidence for the consideration of the veliger stage of scallop species (Pecten maximus and Aequipecten opercularis) in the underwater sound assessment.	The potential impact on scallop species larvae has been addressed in the response to point 5.3 above (REP2-037.80).
REP3-037.86	5.4.3. The MMO notes that the Applicant has amended the SoCG to reflect the current position of the MMO following the advice detailed	The Applicant has provided the additional information as requested in response to points 5.3 and 5.4 (S_D4_6.2: Annex 6.2 to MMO Written Submission at Deadline 3: Queen Scallop).

Reference	MMO's submission	Applicant's response
	above. As mentioned in point 5.1 the MMO awaits the requested information, which the Applicant has committed to providing.	
REP3-037.87	**6. Comments on Annex 3.1 to the Applicant's response to Written Representations from the Marine Management Organisation at Deadline 2 (REP2-006)** 6.1. The MMO thanks the Applicant for providing the requested documents which shows compliance with the North West Inshore and North West Offshore Marine Plan. The MMO had raised concerns at Deadline 1 that a number of policies had not been assessed and the MMO required the policy assessment to be completed in a separate document. After reviewing the document (REP2-006), the MMO considers that the Applicant has provided a suitable response and assessed the project against all policies for compliance.	The Applicant notes and welcomes the response from the MMO.
REP3-037.88	**7. Comments on the Offshore in-principle monitoring plan (REP2-013)** 7.1. The MMO notes that no further invasive non-native species (INNS) monitoring is proposed, aside from drop down video surveys (DDV) as no significant effect from INNS was predicted within the Environmental Statement (ES), therefore further monitoring is not considered to be required. The conclusion of no significant effect in the ES is due to the Applicants commitment to adopt measures which act to reduce the likelihood of introduction of INNS. However, should INNS be identified during review of the imagery, the MMO requests that the Applicant reconsiders the collection of samples to: • confirm species identification and; • understand the fouling assemblage more fully to include cryptic INNS This should be acknowledged within the outline IPMP as a potential during the surveying stage if anything is identified.	A full response to the MMO's comments relating to the monitoring of invasive non-native species (INNS) was provided by the Applicant in their Deadline 3 response to the MMO's written submission at Deadline 2 (see REP2-029.45 of REP3-004).
REP3-037.89	**8. Comments on the Mitigation and monitoring schedule (REP2-15)** 8.1. The MMO noted at the Section 56 Deadline that a mitigation and monitoring schedule should contain a notification to the regulator where there is potential for chemicals used in the construction operation maintenance and decommissioning of the offshore windfarm to have a pathway to the marine environment. This must include those chemicals used within closed systems that require frequent top up, and full details of the risk and justification for use of chemicals must be provided.	The Applicant notes the response from the MMO.

Reference	MMO's submission	Applicant's response
REP3-037.90	8.2. The Applicant responded to this request by stating "*An Offshore Environmental Management Plan will be developed post-consent, to include details of a chemical risk assessment, that shall include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance*." The MMO is content with this however, the MMO reminds the Applicant that properties of the chemicals paints and coatings used should be notified to the MMO for approval prior to use in line with OSPAR (Oslo and Paris convention for the Protection of the Marine environment of the North-East Atlantic) Guidance.	The Applicant notes and welcomes the response from the MMO.
REP3-037.91	8.3. The MMO understands there needs to be flexibility at the post consent stage for unexpected activities that may be required and review these on a case by case basis post consent on if they should be a new licence or variation or are within the parameters assessed.	The Applicant notes and welcomes the response from the MMO.
REP3-037.92	8.4. The MMO always recommends all monitoring to be in the Outline In Principle Monitoring Plan as this makes it clear to all parties what is required post consent. The MMO notes that Condition 20 1(d)(cc) states: *"-details of cable monitoring including details of cable protection until the authorised scheme is decommissioned which includes a risk based approach to the management of unburied or shallow buried cables*;"	The Applicant can confirm that all monitoring committed to by the Applicant, including cable monitoring, is contained within the Offshore IPMP (REP2-013).
REP3-037.93	8.5. As there is no Outline Construction Method Statement (CMS) (as the MMO understands this is based on the final design parameters) it would be beneficial for another document to secure this at this stage but reference the details would be done through the CMS. The MMO notes that this has been updated within Table 1.8 of the Outline IPMP by the Applicant and welcomes this.	The Applicant notes the response from the MMO. The Applicant confirms an Outline CMS is submitted as Outline Offshore Construction Method Statement (S_D4_22).
REP3-037.94	8.6. The results of this monitoring will be submitted to the MMO for review and approval and is conditioned under Post construction monitoring – "*29(5) Following the installation of cables, details of cable monitoring required under 20(1)(d)(i) must be updated with the results of the post installation surveys. The statement must be implemented until the authorised scheme is implemented and reviewed as specified within the statement, following cable burial surveys, or as instructed by the MMO.*"	The Applicant notes the response from the MMO.

Reference	MMO's submission	Applicant's response
REP3-037.95	8.7. The MMO notes that cable monitoring has been included in the Outline In Principle Monitoring Plan and the MMO believes there will be an overview within this document at the post consent/pre-construction stage. Although the CMS is submitted at the preconstruction stage this can approve all monitoring for the project.	The Applicant notes the response from the MMO, the Applicant confirms an Outline CMS is submitted as Outline Offshore Construction Method Statement, S_D4_22.
REP3-037.96	8.8. The MMO notes there are alternatives such as standalone cable and scour installation and monitoring plans alongside the CMS and IPMP on other projects that cover the whole timeline in one document, this is usually to cover more specific environmental concerns but could be adapted in this instance if required.	The Applicant notes the response from the MMO. A number of recently consented projects such as Hornsea Four and Awel y Môr Offshore Wind Farm did not provide such plans. Projects that have provided standalone cable and scour installation and monitoring plans have provided this detail due to the particularly sensitive environmental features where the cable installation is located. For example, the Cable Specification, Installation and Monitoring Plan submitted by Sheringham Shoal and Dudgeon Extension Projects was specifically for the Marine Conservation Zone (MCZ) designated site which the offshore export cable corridor passes through and it could effect the protected features and hinder achievement of the conservation objectives of the MCZ (9.7 Outline Cromer Shoal Chalk Beds (CSCB) Marine Conservation Zone (MCZ) Cable Specification, Installation and Monitoring Plan (CSIMP)). Measures of Equivalent Environmental Benefit were considered necessary by the Secretary of State to compensate for these potential impacts. The Morgan Generation Assets however, is not located within any designated site, indeed it is located over 8 km from the nearest designated site. The Morgan Array Area is not located close to the coast and there are no Annex 1 habitats recorded within the Morgan Array Area. Therefore, the approach set out by the Applicant is considered appropriate. The Applicant confirms an Outline CMS will be submitted as Outline Offshore Construction Method Statement at Deadline 4. The Applicant will engage with the MMO post consent and the CMS and IPMP will need to be approved in writing by the MMO prior to activities commencing.
REP3-037.97	**9. Comments on the Outline vessel traffic management plan (REP2-017)** 9.1. The MMO has reviewed the Outline Vessel Traffic Management Plan and has no comments to make at this deadline. The MMO defers to the Maritime and Coastguard Agency (MCA) and Trinity House (TH) on matters of shipping and navigation and the MMO will keep a watching brief over comments raised on review of the document (REP2-017). The MMO	The Applicant notes the response from the MMO.

Reference	MMO's submission	Applicant's response
	will continue to be part of the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.	
REP3-037.98	**10. Comments on the Outline fisheries liaison and co-existence plan (REP2-019)** 10.1. The MMO has reviewed the Outline Fisheries Liaison and Co-existence Plan (FLCP) and has no additional comments to make at this time. The MMO will however, keep a watching brief over the response from the National Federation of Fisherman's Organisation (NFFO) and provide comment at Deadline 4.	The Applicant notes the response from the MMO. The Applicant has updated the OFLCP at Deadline 2, Deadline 3 and Deadline 4 to incorporate stakeholder comments, including the NFFO's comments in their Written Representation (REP2-031).
REP3-037.99	10.2. The MMO stated at the Section 56 Deadline that the MMO will not act as arbitrator in regard to compensation, and will not be involved in discussions on the need for or the amount of compensation being issued. This needs to be made clear within the Outline Fisheries Liaison and Coexistence Plan. The MMO notes that the Applicant has already addressed this concern in their pre-Examination procedural deadline submission which states "The Applicant notes the MMO's response. The Final FLCP will ensure this point is made clear." The MMO notes that this is not made clear within the document and requests that this is actioned and understands this request has also been made by the ExA.	The Applicant refers the MMO and the ExA to the version of the Outline Fisheries and Co-existence Plan (OFLCP) submitted at Deadline 3 (REP3-022). Paragraph 1.3.3.2 of this document states "*The MMO will not act as arbitrator or be involved in any commercial negotiations with any association/organisation, and/or individual fisheries stakeholders*".
REP3-037.100	**11. Comments on the Outline Operations and Maintenance (O&M) Plan (APP-079)** 11.1. The MMO has no concerns regarding the scoping out of accidental pollution during construction, operations and maintenance and decommissioning due to the Applicants commitment to implement industry good practice standards (International Convention for the Prevention of Pollution from Ships) and adherence to the plans set out in the Environmental Monitoring Plan and Marine Pollution Contingency Plan.	The Applicant notes and welcomes the response from the MMO.
REP3-037.101	11.2. The MMO requests a table is included within the plan that identifies the worst case scenario for all activities that will take place in the O&M phase, so it is clear at this stage what activities the assessment is for.	The project design envelope for operations and maintenance activities is set out in Table 1.2 of the Outline offshore operations and maintenance plan (APP-079). The 'Activity description' includes the methodology and frequency for each activity, over the lifetime of the Morgan Generation Assets. Operations and maintenance activities have been fully assessed within each chapter of the EIA, as relevant, with the maximum design scenarios within the relevant chapters selected from the project design

Reference	MMO's submission	Applicant's response
		envelope presented in Table 1.2 of the Outline offshore operations and maintenance plan (APP-079).
REP3-037.102	11.3. The MMO would request that for Inter-array cables/ Interconnector cables cable protection is split into 2 sections: i) Replacement of cable protection in the same area as cable protection installed during construction– covered in the licence ii) Placement of cable protection in new areas and it should be clear that this requires a new marine licence.	The Applicant notes the response from the MMO. It should be noted that all cable protection will be within the Morgan Array Area as assessed within the Environmental Statement and that cable protection will not be installed in any areas outside of the Morgan Array Area.
REP3-037.103	11.4. In addition to 11.3 the same should be added for scour protection.	The Applicant notes the response from the MMO. It should be noted that all scour protection will be within the Morgan Array Area as assessed within the Applicant's Environmental Statement and that scour protection will not be required in any areas outside of this.
REP3-037.104	11.5. Foundation replacement should also be included with the requirement for a new marine licence would be required.	The Applicant would highlight that foundation replacement is not a reasonably foreseeable activity or an activity that has ever been carried out at any offshore wind farm, to the Applicant's knowledge. As such, foundation replacement is not an activity that is included within the remit of the Morgan Generation Assets application or that should be included within the Outline offshore operations and maintenance plan (APP-079).
REP3-037.105	**12. Attendance at Issue Specific Hearing 2 (ISH2)** 12.1. The MMO understands the ExA have requested attendance at the ISH on 26 & 27 November, this was dependant on what was submitted at DL3. The MMO will have no additional information on top of what is submitted within this response and therefore will not be attending the ISH. The MMO will keep a watching brief on any issues or action points raised and will continue to work through issues with the Applicant between deadlines.	The response is noted by the Applicant.

2.2 Natural England

Table 2.2: REP3-045, REP3-046, REP3-047, REP3-049– Natural England

Reference	Natural England Submission	Applicant's response
REP3-045.1	**Covering Letter** **1. Deadline 3 Submissions** Natural England has reviewed the relevant documents submitted by the Applicant at Deadline 2. Please find an update of Natural England's position regarding these documents in Table 1 below, including anticipated timing of responses. In addition, Natural England is also submitting the following detailed responses, signposted from Table 1, within the following thematic appendices: • EN01036 489980 - Morgan Offshore Wind Project: Generation - Appendix I3 - Natural England's Risk and Issues Log Deadline 3 • EN01036 489980 - Morgan Offshore Wind Project: Generation - Appendix K3 - Natural England's comments on Examining Authority's written questions (ExQ1) [PD-004] • EN010136 Morgan Offshore Wind Generation Assets Appendix B3 - Natural England's Comments on Offshore Ornithology Deadline 3 • EN010136 491672 Morgan Offshore Wind Generation Assets Appendix H3 Offshore In Principle Monitoring Plan - Natural England's Comments Deadline 3.	The Applicant notes Natural England's comments and has responded, where relevant, below.
REP3-045.2	**2. Applicant's Deadline 1 and 2 submissions in relation to offshore ornithology** In response to the Applicant's numerous offshore ornithology related submissions at Deadlines 1 and 2, Natural England has provided further advice at this deadline in Appendix B3. In providing this advice we have had due regard to other offshore wind farm NSIPs 2currently in Examination, including Mona and Morecambe.	The Applicant welcomes Natural England's comments on the submissions at Deadline 1 and 2 and has provided specific comments, where necessary below.
REP3-045.3	**3. Offshore In-Principle Monitoring Plan (IPMP) [REP2-013]** Natural England welcomes the submission of the updated Morgan Generation Offshore IPMP at Deadline 2. Our detailed comments have been provided in Appendix H3.	The Applicant notes Natural England's comments and has responded, where relevant, below.
REP3-046.1	**Appendix B3 to the Natural England's Deadline 3 Submission - Natural England's Comments on Offshore Ornithology**	The Applicant notes the response. Please see responses on specific points below.

Reference	Natural England Submission	Applicant's response
	In formulating these comments, the following documents have been considered: • [REP1-010] Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note • [REP1-011] Displacement Rates Clarification Note • [REP1-012] Annex 4.7 to Response to Hearing Action Point 15: Apportioning Sensitivity Analysis • [REP2-021] Treatment of Birds in Flight Data in Abundance Estimation • [REP2-022] Great black-backed gull regional populations	
REP3-046.2	1**.Major/Complex comments** **•Overarching comment** Natural England made a number of comments relating to impact assessment methodology in our Relevant Representations. While the Applicant has responded to many of these comments, an updated impact assessment that reflects this advice has not been supplied.	It is the Applicant's position that an updated assessment is not required as the conclusions of all sensitivity analyses indicate that the issues that they are addressing have no material impact on the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). Similarly, if the impacts from Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) or the clarification notes submitted into the Examination were to be used by future projects, the differences would also make no material difference to the conclusions of future assessments. The Applicant has held recent discussions with Natural England (13 November 2024) and is working with Natural England to provide a summary of data to be submitted into the Examination as advised. It is considered that this will provide Natural England with the information necessary to close out many of the outstanding issues relating to the methodologies applied without the need for updated assessment documentation.
REP3-046.3	Instead, the Applicant has essentially stress-tested their conclusions against our advice on specific aspects in isolation from each other. For example, the Applicant has carried out a gap filling exercise to test whether the conclusions of their cumulative and in-combination assessments hold if historic projects are quantified and considered, but the findings of that exercise are not then propagated through into the Applicants actual impact assessments.	Please see the Applicant's response to REP3-046.2.

Reference	Natural England Submission	Applicant's response
REP3-046.4	Furthermore, some areas of outstanding disagreement remain. For example, the age apportioning of kittiwakes according to a method developed by Hornsea 2 OWF has been retained despite this being contrary to SNCB advice. Again, we highlight that we cannot conclude our positions on the significance of predicted impacts or confirm integrity judgements if assessments following best practice and SNCB advice are not supplied alongside the Applicants preferred approaches.	The Applicant has submitted a clarification note addressing this issue at Deadline 3 (Kittiwake apportioning clarification note (REP3-020)) and awaits Natural England's response. The clarification note concludes that the exclusion of older immatures from the apportioning value applied in the breeding season (i.e. applying 84.11% of adults) makes no material difference to the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). However, the Applicant would highlight that the only SPAs in England at which kittiwake is a designated feature are located on the North Sea coast. These SPAs have no connectivity with the Morgan Generation Assets in the breeding season and therefore this issue is not relevant to these SPAs.
REP3-046.5	Natural England advise that an updated ES should be supplied into the Examination containing impact assessments that fully and holistically reflect SNCB advice. This updated ES should clearly indicate the projects impact estimates according to the project and SNCB preferred parameters.	Please see the Applicant's response to REP3-046.2.
REP3-046.6	•**[REP1-010] Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Not**e Natural England welcome the Applicants undertaking of quantitative gap-filling for relevant historic OWFs to inform the in-combination and cumulative effect assessments. We also note and welcome the consideration of SNCB advice on investigating proportions of birds in flight from a more representative (i.e. coastal) range of sites by investigation of Awel y Môr data, and the seasonal or monthly breakdown of proportions of birds in flight. Natural England are satisfied that the methodology applied is fit for purpose and has generated indicative impact estimates to quantify impacts that had previously only been considered qualitatively.	The Applicant welcomes agreement on the methodology applied.
REP3-046.7	Natural England highlight that the results of the gap-filling undertaken demonstrates that this quantification, despite inherent limitations, was of fundamental importance. Significant levels of potential impact to some species have been identified at some of the historic projects.	The Applicant highlights that the conclusions reached in Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note (REP1-010) identify that the inclusion of the additional projects would have no material effect on the conclusions reached in either Volume 2, Chapter 5: Offshore ornithology (APP-023) or HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-

Reference	Natural England Submission	Applicant's response
		098). The impacts associated with the additional projects are therefore not significant for the purposes of EIA or HRA for this project.
REP3-046.8	This is especially true for the large gulls. Thus, we advise that the results of the gap-filling exercise should be used to populate updated cumulative and in-combination impact assessments.	Please see response to REP3-046.7.
REP3-046.9	We consider that this exercise has significantly reduced uncertainty and should enable the relevant SNCBs to make informed conclusions and integrity judgements. For the avoidance of doubt, we will only consider those results calculated according to best practice advice and SNCB guidance, i.e. CRM outputs using species group avoidance rates, advised flight speeds, and consented wind farm parameters (where these are available) when formulating our advice and drawing conclusions.	The Applicant welcomes confirmation that this exercise has significantly reduced uncertainty and should enable the relevant SNCBs to make informed conclusions and integrity judgements.
REP3-046.10	We understand that the Applicant intends to submit updated cumulative and in-combination assessments at Deadline 3 to reflect impacts from additional projects and updates to some existing projects. Thus, we defer comment on cumulative and in-combination impacts and their potential significance until we have reviewed these assessments.	The Applicant has undertaken this work, submitted at Deadline 3 (REP3-019). The note included consideration of impact estimates submitted as part of the Morecambe Offshore Windfarms: Generation Assets application and the conclusions reached in the assessments for projects in Irish and Welsh waters that have also submitted applications since the submission of the Morgan Generation Assets application. In all cases, the overarching conclusions reached were consistent with those reached in the Morgan Generation Assets application (i.e. no significant effects at an EIA level and no adverse effects on designated sites).
REP3-046.11	**•[REP1-011] Displacement Rates Clarification Note** As reproduced by the Applicant in Table 1.1 of this document, Natural England advised in our relevant representation, "that the project fully considers the SNCB advised ranges of displacement and mortality rates in all assessments." Furthermore, we note Natural Resources Wales similarly advised the Applicant "To account for uncertainty in displacement and mortality rates we recommend that apportioned impacts and associated increases in baseline mortality across the range of SNCB advised % displacement and % mortality are also presented and considered in the assessments."	The Applicant has previously responded to the points raised (please see the Applicant's responses to RR-026.B.74, RR-026.B.90 and RR-027.33 in PD1-017 and REP1-011).
REP3-046.12	The Applicant has not followed SNCB advice and has instead presented additional displacement assessments that consider a displacement rate of 70% (the upper end of the SNCB advised range) and a mortality rate of 2% (SNCBs advise impacts across the range of 1-10% should be presented in a matrix). The Applicant's selection of 70% and 2% is informed by the rates for	The use of a 70% displacement rate and 2% mortality rate represents the precedent set by the Secretary of State in the consent decisions for the Sheringham Shoal Extension and Dudgeon Extension projects and the Hornsea Four project. The use of these rates in the Secretary of State's decision was based on advice provided by Natural England. The Applicant

Reference	Natural England Submission	Applicant's response
	guillemot and razorbill considered in the Secretary of State's HRA of the Sheringham Shoal Extension and Dudgeon Extension offshore wind farms and Hornsea Four offshore wind farm. We do not consider this an appropriate approach and in any event would highlight that we advised the application of up to a 5% mortality rate at Hornsea 4 OWF. We continue to advise the consideration of the full range of SNCB advised rates at Step 1 of the Applicant's two step ISAA process.	notes that the recommendation of the use of a 70% displacement and 5% mortality rate for Hornsea Four (Natural England recommended the use of a 2% mortality rate for all other projects incorporated into the cumulative and in-combination assessments) was due to the proximity of that project to the Flamborough and Filey Coast (FFC) SPA. The Morgan Generation Assets are not in close proximity to a breeding colony that is comparable to the FFC SPA and therefore following Natural England's advice to the Secretary of State a 2% mortality rate has been applied. The Applicant presented displacement matrices across the full range of displacement and mortality rates required by Natural England in Volume 4, Annex 5.2: Offshore ornithology displacement technical report (APP-054). Where appropriate, full displacement matrices are also included in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).
REP3-046.13	We would highlight that this clarification note essentially 'stress tests' the Applicants displacement assessments, but does not also consider SNCB advice on other aspects that could also impact the assessment, such as apportioning. Ultimately, we consider that the various updates to assessments currently presented in isolation should be considered holistically, and a fully updated assessment presented.	Please see the Applicant's response to REP3-046.2.
REP3-046.14	• **[REP1-012] Annex 4.7 to Response to Hearing Action Point 15: Apportioning Sensitivity Analysis** Natural England welcome the response to our advice that the most recent Seabirds Count data should be used to apportion birds to colonies in the breeding season. We note again that an updated assessment reflecting our advice has not been undertaken, but rather, our advice has been considered in isolation to identify any impact on the Applicants original conclusions. While we agree with the Applicant that the consideration of the best available evidence on colony count data does not alter their conclusions regarding impact significance, we note that the project's predicted impacts do, inevitably, change. We advise that the end of Examination project-alone impact assessments, to be utilised by other projects in future cumulative and in-combination assessments, would ideally be apportioned according to the most contemporary and best available evidence. Accordingly, we advise the holistic implementation of our advice on all aspects should be reflected in a fully updated impact assessment.	Please see the Applicant's response to REP3-046.2.

Reference	Natural England Submission	Applicant's response
REP3-046.15	• **[REP2-021] Treatment of Birds in Flight Data in Abundance Estimation** The Applicant has investigated the differences in calculated densities of birds in flight at the array area only, as should be used in a best practice approach to CRM, compared to those densities considered in the original assessment, where densities of birds in flight were calculated across the array +10km buffer for CRM.	The Applicant would clarify that the densities presented are representative of the Morgan Array Area only and not the Morgan Array Area plus 10 km buffer. The calculation process takes the density for all birds from the Morgan Array Area and multiplies this by the proportion of birds in flight from the Morgan Array Area plus 10 km buffer area. This has been discussed with Natural England recently (13 November 2024) and it is confirmed that Natural England are also of this understanding.
REP3-046.16	The Applicant states that their approach was presented at PEIR, and no issues were raised. This is incorrect. Natural England raised a key concern in our PEIR response, that "The submitted ES should include presentation of more detailed methods, including corrections for the apportionment of unidentified birds and availability bias and the generation of 'birds in flight' densities for use in CRM" as it was not sufficiently clear how densities of birds in flight had been derived.	Please see the Applicant's response to RR-026.B.62 in PD1-017.
REP3-046.17	Nonetheless, Natural England welcome the Applicants undertaking of this comparative analysis to address our concerns. We highlight again that we do not consider it appropriate to calculate densities of birds in flight from any area other than that in which collisions arising from the project will be possible i.e. the array area.	Please see response to REP3-046.15.
REP3-046.18	We note the comparative densities provided in Appendix A indicate that in many cases, densities calculated from the two approaches are identical, or very similar. Nonetheless, significant overall differences in density do emerge for some species, driven by significant differences in some months. The greatest difference emerges for Manx shearwater, a species with generally low flight heights and thus unlikely to be significantly impacted by collision mortality. As such the 37% increase in density when considering flying birds in the array area may be of limited concern. However, it is of note that work to gather more robust data to inform flight height distributions for this species is being carried out by the ProcBe (Procellariiform Behaviour and Demographics) project under the OWEC (Offshore Wind Evidence and Change) programme. The smallest difference is for kittiwake, a species of key concern, but which appears to behave similarly across the array and 10km buffer. Clearly, in this case, an appropriate density of flying birds has been calculated. The same can probably be said for gannet, with a 10% increase in density if the array only is considered.	The Applicant highlights that it was concluded in the Treatment of Birds in Flight Data in Abundance Estimation clarification note (REP2-021) that any differences would make no material difference to the assessments presented as part of the application.

Reference	Natural England Submission	Applicant's response
REP3-046.19	The large gulls show significant but variable differences, from a 25% decrease in density for herring gull, to a 20% increase for lesser black-backed gull. This could indicate a purely stochastic effect for these species, as they might be expected to display broadly similar behaviours in the offshore environment.	Please see response to REP3-046.18.
REP3-046.20	We note that proportional changes in the densities inputted to CRM can be used to adjust the resulting mortality estimates, and thus, the proportional increase/decrease in densities identified by the Applicant can be used to inform our conclusions on levels of project alone impacts. We are in agreement with the Applicant that those conclusions should remain unaltered due to the low level of predicted impact.	The Applicant welcomes agreement on the overarching conclusions reached in the Treatment of Birds in Flight Data in Abundance Estimation clarification note (REP2-021).
REP3-046.21	For the avoidance of doubt, while we are content that the densities of birds in flight across the array+10km buffer considered by the Applicant for CRM appear broadly acceptable for the purposes of impact assessment in this case, Natural England continue to advise that densities considered for CRM should be derived from the array area only. Thus, Natural England may take account of the expected changes to CRM results if array area only densities are considered when formulating advice and drawing conclusions.	This response is noted by the Applicant.
REP3-046.22	•**[REP2-022] Great black-backed gull regional populations** Natural England welcome the updated assessment to consider the correct regional population, however, we retain concerns regarding the impact assessment presented for great black-backed gull.	Please see the Applicant's response to REP3-046.2
REP3-046.23	We advise that the results of the CEA gap-fill exercise need to be considered within the assessment of impacts for great black-backed gull. We note that the Applicant considers those results to be incompatible as the modelled density data used to inform them is considered 'relative' while the design-based densities generated by baseline characterisation surveys for other projects are considered 'absolute'.	Please see the Applicant's response to REP3-046.2
REP3-046.24	Despite this, we consider the Applicants gap-fill results represent the best available evidence for indicative estimates of collisions at historic projects and therefore should be used in updated impact assessments. We note that survey coverage in the relevant region to inform the modelling was good, and the species in question is readily detected. Further, densities related specifically to birds in flight and no corrections for availability bias are required (Bradbury et al, 2014).	Please see the Applicant's response to REP3-046.2

Reference	Natural England Submission	Applicant's response
REP3-046.25	No further justification for the Applicants position is supplied, such as a comparison of the modelled density data with design-based estimates from other projects in the region. If such analysis indicated that the modelled density estimates do appear to form a questionable basis for impact assessment, it may be appropriate to re-consider a proxy sites approach.	Please see the Applicant's response to REP3-046.2.
REP3-046.26	The SNCBs supplied the Applicant and White Cross OWF with the same advice note proposing methodological approaches to gap-filling. However, White Cross OWF opted to use density data derived from the most suitable proxy sites to calculate impact estimates from historic projects in the Irish Sea for cumulative assessments. The results of this exercise are in the public domain (Appendix-Q-Ornithology-Assessment-00.pdf). We note that impact estimates calculated using the scaled 'absolute' density data from proxy sites were substantially higher than those calculated by the Applicant. For example, an annual impact of 22.6 birds is calculated at West of Duddon Sands, compared to just 1.2 from the Applicants approach, while at Gwynt y Môr OWF an annual impact of 12.0 birds is calculated compared to the Applicants 0.4.	It is the Applicant's understanding that Natural England do not recommend the use of the proxy data approach to gap-filling cumulative assessments.
REP3-046.27	Natural England advise that an updated PVA at EIA scale for great black backed gull should consider impacts to all individuals (not just adults) and be based on the gap-filled cumulative predicted impact of 161.5 collisions per annum reported in 'Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note', assuming that this number reflects all relevant SNCB advice.	Please see the Applicant's response to REP3-046.2
REP3-046.28	We currently consider the Applicants calculated increase in baseline mortality (for EIA) of 7.23% to be a significant underestimate, primarily due to the non-inclusion of CEA gap fill results. While we refrain from drawing final conclusions in-lieu of an assessment that follows and fully integrates SNCB advice and best practice, Natural England highlight that in light of the conservation status and population trends of great black-backed gull, this elevated increase in baseline mortality indicate that there is likely to be a significant impact at the EIA scale.	The Applicant highlights that there are significant areas of over-estimation in the calculation of the cumulative impact for great black-backed gull including the use grouped avoidance rates, flight speed data that is not representative of the behaviour of great black-backed gulls and the reduction in collision risk at projects between consented and as-built turbine scenarios. These areas of over-estimation will serve to reduce the impact predicted for great black-backed gull when the SNCB position is considered even if the CEA gap-fill projects are included. Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note (REP1-010) identified that the inclusion of the gap-fill projects would increase the baseline mortality threshold metric by 0.14 to 0.96%. This is not considered to

Reference	Natural England Submission	Applicant's response
		represent a material change in the assessments presented for great black-backed gull and is therefore not considered to be significant. The conservation metrics mentioned by Natural England (conservation status and population trends, considered in APP-053 and APP-023) have been incorporated into the assessments presented in APP-023. The Applicant has concluded throughout the assessments presented and clarification notes submitted that the cumulative impact for great black-backed gull is not significant and maintains that this is the case.
REP3-046.29	**3. References** Bradbury G, Trinder M, Furness B, Banks AN, Caldow RWG, Hume D (2014) Mapping Seabird Sensitivity to Offshore Wind Farms. PLoS ONE 9(9): e106366. https://doi.org/10.1371/journal.pone.0106366	The Applicant notes the reference provided.
REP3-047.1	**EN010136 491672 Morgan Offshore Wind Generation Assets** **Appendix H3 to the Natural England's Deadline 3 Submission** **Natural England's Advice on Morgan Generation Assets Offshore In-Principle Monitoring Plan [REP2-013]** In formulating these comments, the following documents have been considered: • S_D2_9 Offshore in-principle monitoring plan [REP2-013] 1) Summary of advice Natural England welcomes the submission of the updated IPMP at Deadline 2 [REP2-013].Natural England's advice provided within this Appendix on the updated IPMP should be reviewed alongside our advice provided on the Morgan Generation IPMP [APP-066] at Deadline 1 (Appendix H1) [REP1-054]. The updated IPMP submitted at Deadline 3 resolves the concerns raised in our Relevant/Written representations [RR-26] and Deadline 1 submission [REP1-054] regarding physical processes and benthic ecology monitoring. However, our comments regarding monitoring for offshore ornithology and marine mammals monitoring remain unresolved. In addition, we advise the Applicant considers our response to ExQs relating to sufficiency of monitoring	The Applicant notes Natural England's advice and has provided a response to their recommendations on monitoring in REP3-047.8.
REP3-047.2	**2) Overarching Comments** 1. Further updates to IPMP: For some of the topics, including benthic ecology and physical processes, we acknowledge that this is an outline plan and therefore, further detail on survey methodologies will be provided post-consent. However, we advise that as much detail on specific hypotheses to	The Applicant responded to Natural England's detailed comments on the Offshore IPMP (REP2-005) and submitted an updated In-Principle Monitoring Plan (REP2-013) at Deadline 2. The final monitoring plan developed post-consent will set out the specific hypotheses to be tested, monitoring objectives and duration of surveys (as required by Schedules 3 and 4, Part 2,

Reference	Natural England Submission	Applicant's response
	be tested, monitoring objectives and duration of surveys should be provided at the consent stage.	conditions 27(1), 27(2), 28(1) and 29(1) of the dMLs within the draft DCO (S_D4_8)). The Applicant reiterates that monitoring will be influenced by the final design of the Morgan Generation Assets and therefore greater detail on specific hypotheses, monitoring objectives and duration of surveys cannot yet be provided.
REP3-047.3	2. Final Monitoring Plan: While we note the commitment to develop a final monitoring plan in accordance with the Offshore IPMP (APP-066) which is secured as a condition in the dMLs within the draft DCO (REP1-021). The final monitoring plan should be agreed in consultation with the relevant SNCBs at the post consent/pre-construction stage. We also reiterate that adaptive monitoring and the undertaking of remediation measures where unforeseen impacts occur, should be secured as part of the plan.	The final monitoring plan will be submitted to and approved in writing by the MMO, following consultation with relevant stakeholders, as required by Schedules 3 and 4, Part 2, condition 20(1)(c) of the dMLs within the draft DCO (S_D4_8). In relation to adaptive monitoring, the Applicant has committed to considering a form of adaptive monitoring for the following topics/species, in response to where a particular concern has been raised by a stakeholder: • Invasive non-native species: Should monitoring detect the presence of INNS, the Applicant will commit to considering the feasibility of collecting samples of the communities colonising the seabed infrastructure for further analysis. The Applicant will commit to exploring this as an adaptive monitoring measure which would be discussed with the MMO as part of the development of the monitoring plan post-consent (see the Applicant's response to REP2-029.45 in REP3-004). • Scallop: the Applicant has added a commitment to undertake scallop monitoring within the OFLCP and Offshore IPMP. The Applicant will engage with the MMO on the outputs of any monitoring findings and the need for any adaption to the monitoring duration and or scope thereafter in response to these outputs (see the Applicant's response to ExQ1 reference CF 1.1 in REP3-006). • Secondary scour: The Offshore IPMP outlines that engineering monitoring for asset security and environmental monitoring will be undertaken. As such, routine inspections will be made of cable and scour protection and, if secondary scour is identified, remedial works may be undertaken to both mitigate environmental impacts and to provide asset security. Mitigating measures may be developed in discussions with the regulatory authority and its statutory advisors (see the Applicant's response to ExQ1 reference MP 1.5 in REP3-006). The nature of monitoring and need for any adaptation will be set out in the final monitoring plan submitted post-consent (see the Applicant's response to REP2-033.86 in REP3-004).

Reference	Natural England Submission	Applicant's response
REP3-047.4	3. Operation and Maintenance Activities: We note that whilst the updated IPMP considers how various O&M activities will be logged, there is no consideration of monitoring said activities from an environmental perspective or any safeguards to stop unforeseen impacts occurring.	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). The Applicant considers that its response addresses Natural England's comments. As noted in that response, and as described in the Offshore in-principle monitoring plan (REP2-013), monitoring of the cables and their burial status will take place, as secured by condition 20(1)(d)(cc) of the deemed Marine Licences (Schedules 3 and 4) within the draft DCO (S_D4_8). Please also see the Applicant's response to REP3-047.3 above regarding monitoring of secondary scour during operation.
REP3-047.5	4. Examiners Questions on monitoring. We draw the Examiner's attention to our response on the first set of Questions [PD-004] MP1.10 (monitoring of biodiversity on infrastructure) and MO1.13 (Ornithology monitoring). Within Appendix K3 we have highlighted that further monitoring requirements to those currently included within the IPMP and/or raised in our Deadline 1 advice [Rep1-054] are likely to require further consideration by the Applicant.	The Applicant has responded to Natural England's responses to ExQ1 in S_D4_5.
REP3-047.6	5. Securing monitoring commitments: As highlighted within our 'other plans' tab in our Risks and Issues log (Appendix I3) there is mention of further monitoring proposed by the Applicant, but this is not secured on the DCO/dML or within a named plan and therefore there is no change to our Risks and Issues log. But we do believe these matters are readily resolvable.	All monitoring committed to by the Applicant is detailed within the Offshore IPMP (REP2-005). The final monitoring plan will be submitted to and approved in writing by the MMO, following consultation with relevant stakeholders, as required by Schedules 3 and 4, Part 2, condition 20(1)(c) of the dMLs within the draft DCO (S_D4_8). Therefore this is secured in the DCO/dML.
REP3-047.7	**3) Physical Processes & Benthic Ecology** Natural England welcomes the inclusion of the following monitoring measures for physical processes and benthic ecology included within the updated In Principle Monitoring Plan, and Mitigation and Monitoring Schedule, submitted at Deadline 2: - Monitoring for Invasive Non-Native Species (INNS) - Colonisation of hard structures - Sandwave recovery Having reviewed the updates to the IPMP, we welcome the inclusion of sandwave recovery monitoring. However, we highlight that any mitigation measure to aid the recovery of sandwaves should, where possible, undertake disposal within similar sediment type close to the installation activity and must	The Applicant welcomes Natural England's response. The Applicant has committed to the development and adherence to an Offshore Construction Method Statement (CMS) which includes a Cable Specification and Installation Plan (CSIP) which requires that material arising from drilling and/or sandwave clearance will be deposited in close proximity to the works and within the licenced disposal area applied for (which is the Morgan Array Area) (Table 2.17, Volume 2, Chapter 2: Benthic subtidal ecology (APP-020)). This will help to retain material within the sediment cell where it originated from and maintain the sediment transport regime which will support the recovery of sandwaves.

Reference	Natural England Submission	Applicant's response
	avoid impacting directly/ indirectly on priority habitats. We maintain that sandwave recovery monitoring will help to build on the strategic evidence required to understand the regional impacts to sediment transport processes and physical processes caused by the installation of large-scale wind farm developments into the future. Recovery monitoring of sandwaves will support statements made in the submitted documentation that sandbanks will recover in the short-term and will also help to inform future work. We re-iterate our original written representation comments that appropriate survey design and power analysis should be agreed (post consent) and conducted to ensure that adequate data is collected for long term comparisons of the effect of change compared to baseline data.	Regarding appropriate survey design for sandwave recovery monitoring, please refer to Applicant's Response to Written Representations (REP2-005, REP1-054.17) and an updated In Principle Monitoring Plan (REP2-013) submitted at Deadline 2 as well as the Applicant's response to the Applicant's Response to Examining Authority's Written Questions (ExAQ1) MP 1.4 submitted at Deadline 3 (REP3-006). As previously stated, the Applicant has followed Natural England's recommended approach with regards to the inclusion of sandwave recovery monitoring in the updated In-Principle Monitoring Plan (REP2-013). The Construction Method Statement (CMS) (S_D4_22) which includes a Cable Specification and Installation Plan (CSIP) requires that material arising from drilling and/or sandwave clearance will be deposited in close proximity to the works. The Applicant therefore considers that this point can be closed.
REP3-047.8	**4) Marine Mammals** Natural England notes that the Applicant has included the following monitoring approach for marine mammals: "Measurements of underwater sound generated by the installation of the first four piled foundations of each piled foundation type and associated marine mammal monitoring, to be set out in the marine mammal mitigation protocol (MMMP)." As set out in our relevant representations C8 and C32, we reiterate that marine mammal monitoring should be carried out in addition to this standard industry monitoring. Detailed requirements for the IPMP can be found in: Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards Phase IV: Expectations for monitoring and environmental requirements at the post-consent phase. This document outlines Natural England's recommendations for an effective IPMP and should be considered when planning monitoring post-consent. Ideally, this will be a collaborative assessment across the Mona and Morgan Generation projects with a focus on filling evidence gaps for marine mammals in the Irish Sea, with a focus on receptors which are not usually the subject of postconstruction monitoring. Natural England would welcome further engagement once the Applicant has proposed further monitoring for Marine Mammals. This could include, but is not limited to, monitoring the impacts of construction for harbour porpoise and bottlenose dolphin. Therefore, we do not consider this to be resolved at deadline 3.	The Applicant notes Natural England's advice regarding monitoring and agrees that further engagement with statutory stakeholders would be beneficial to discuss the need for and details of any specific marine mammal monitoring Natural England propose. The Applicant notes that further discussion would be required to set out specific hypotheses that can be practically tested via monitoring as opposed to monitoring for monitoring sake and that any proposed monitoring is proportionate to the risk. In addition, project-based monitoring may not have the statistical power to determine change and the Applicant reiterates that strategic based monitoring provides far greater benefits for evidence gathering (please also see the Applicant's response to REP3-049.41 below). This latter point is important to note as changes in the project design post-consent may reduce the risk of effects on marine mammals e.g. if gravity base foundations are constructed, both for the project alone and cumulatively with other projects.

Reference	Natural England Submission	Applicant's response
REP3-047.9	**5) Ornithology** Natural England is supportive of the ExA request (EXQ MO 1.13) for the Applicant to consider the inclusion of monitoring for key ornithology receptors within the IPMP and appropriately secure it within the draft DCO, drawing on SNCB advice. We advise that monitoring should ideally be a collaborative assessment across the Mona and Morgan Generation projects with a focus on receptors which are not usually the subject of post-construction monitoring. For example, Digital Aerial Surveys (DAS) monitoring of manx shearwater displacement from OWF array areas. Natural England would welcome further engagement once the Applicant has proposed ornithological monitoring within the IPMP. Therefore, we will wait until the appropriate deadline to provide further comments on any additional documents provided by the Applicant during Examination.	Please see the Applicant's response to the Examining Authority's first written questions (REP3-006) in relation to this question. In relation to Manx shearwater, the Morgan Generation Assets are not located in an area of importance for Manx shearwater as illustrated by the results of the baseline aerial surveys undertaken in support of the application and other survey programmes and analyses (e.g. Waggitt *et al.,* 2020) as presented in APP-053. During site-specific baseline aerial surveys, the abundance of Manx shearwater was relatively low, in the context of the Irish Sea, throughout the breeding season, increasing into the post-breeding season in the second year of surveys. The increase noted is likely ephemeral in nature, driven not by the importance of the area but more by prevailing weather conditions pushing migrating birds out of favoured foraging areas (e.g. the South-west Approaches or those associated with the Irish Sea Front) into the north-east Irish Sea. The regional distribution maps presented in Appendix B of APP-053 show that the Morgan Generation Assets study area supports relatively low to negligible densities through the year. Higher densities occur further west, closer to Ireland, and are associated with the Irish Sea Front, an area known for its importance for the species. As a result, there is no guarantee that the abundance of Manx shearwater would be high enough for robust conclusions to be drawn as part of post-consent monitoring. The Applicant therefore maintains that the uncertainties associated with the assessments are better addressed through strategic monitoring programmes which can be targeted at areas in which seabird abundance is higher therefore increasing the chances that robust datasets can be collected and robust conclusions drawn. For the reasons set out in REP3-006 and above, the Applicant considers that there is clear justification for not undertaking project specific ornithological monitoring in this instance.
REP3-049.1	**A1/A5** The DCO and dMLs do not accurately capture all the required maximum parameters of the proposed works. Important metrics such as the maximum area and volume of scour and cable protection and the number and size of Unexploded Ordinance (UXOs) that can be detonated through High Order Detonations have not been included. **Update at Deadline 2** The Applicant has provided the maximum volume of scour protection in the draft DCO and dMLs. However, maximum area of scour and maximum	The Applicant updated the draft DCO [REP3-013] at deadline 3 to specify further maximum parameters for the proposed works. This includes maximum area of scour and maximum volume and area for cable protection (see Schedule 2, Requirement 2, table 1; Schedule 3, condition 10, table 2; and Schedule 4, condition 10, table 3). This update also includes the number of UXO that can be detonated under the dMLs (see Schedule 3, condition 23(6); Schedule 4, condition 23(6)). Therefore the Applicant considers these points resolved.

Reference	Natural England Submission	Applicant's response
	volume and area for cable protection have still not been provided. The number and size of UXOs that can be detonated through High Order Detonations have not been included. Therefore no change to our position at Deadline 2. **Update at Deadline 3** No change	
REP3-049.2	**A2/A9** The pre-construction documentation required under the dMLs condition 20 is to be provided four months prior to commencement. Due to the increasing complexity of construction of large offshore works, six months is now considered an appropriate period. **Update at Deadline 2** In the response to Relevant Representations document (ref: PD1-017), the Applicant has responded to this comment and stated they will discuss with Natural England and the MMO on timescales. However, no further updates have been provided into Examination from the Applicant on this matter. Therefore, no change to our position at Deadline 2. **Update at Deadline 3** No change	The Applicant is continuing to engage with the MMO on suitable timescales for submission of plans and associated documents to discharge conditions of the dMLs. The Applicant will be able to discuss this matter further with Natural England once a response has been received.
REP3-049.3	**A3/A8** There is no condition requiring an updated Offshore Operations and Maintenance Plan (OOMP) be submitted, with the SNCB consulted prior to approval. The condition should also secure that no cable protection should be deployed later than 10 years post construction. Permission for any further cable protection works after that time should be sought through a new Marine Licence. **Update at Deadline 2** We note that condition 13(3) of each dMLs and draft DCO require that an OOMP is submitted, with SNCB consulted prior to approval and must provide for review and resubmission every three years during the operational phase. However, the condition does not secure that no cable protection should be deployed later than 10 years post-construction. Therefore our concerns have been partially resolved at Deadline 2.	As set out in its response to ExAQ1 DCO 1.17 (REP3-006), the Applicant does not consider there to be any reasonable basis on which to impose a time-limit on the activities authorised by the deemed marine licences in the manner suggested by Natural England. The Applicant has included all reasonably predictable operations and maintenance activities within the Morgan Generation Assets application and undertaken a robust and precautionary assessment of the potential impacts of those within the Environmental Statement. The Applicant has now updated the dMLs within the draft DCO to include maximum cable protection areas and volumes that could be deployed across the lifetime of the project. That is what the Applicant has applied for and what has been assessed in the Environmental Statement. The Applicant notes that Natural England has not explained or justified its position.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 No change	
REP3-049.4	**A4/A11** The monitoring conditions included within the dMLs do not secure any ecological monitoring. Monitoring of benthic, ornithological and marine mammals should be secured through appropriate conditions **Update at Deadline 2** No change **Update at Deadline 3** We acknowledge the updated IPMP submitted by the Applicant at deadline 2 (REP2-013). Our full response is provided in Appendix H3. This addresses our monitoring comments regarding physical processes and benthic and subtidal ecology. However, our comments surrounding monitoring for marine mammals and offshore ornithology remain unresolved at deadline 3.	The Applicant refers to its response to ExAQ1 GEN 1.8 (REP3-006), REP3-047.8 above and its comments within the summary of the Applicant's oral submissions at ISH2 [S_D4_4] and response to the ExA action point (S_D4_3). As set out in the well-established MMO 2014 guidance monitoring is only required if there is a significant effect or new or novel activities. Offshore wind farms have been constructed for over 20 years and around the globe and recently consented project have not been required to monitor all potential impacts. For example, neither Hornsea Four nor Awel y Mor were required to undertake any marine mammal monitoring beyond the underwater sound of the first four piles. When the Morgan Generation Assets has some of the lowest impacts in comparison to other offshore wind farms, being over 8km from a designated site and no Annex 1 habitats recorded within the array, monitoring is not warranted for all potential impacts and it needs to be proportionate. The Applicant does not consider that Natural England has fully explained or justified its suggestion that ecological monitoring of the nature sought is required.
REP3-049.5	**A6** The Applicant should update the dMLs to include the maximum hammer energy that may be used. This should be presented as a maximum for each different foundation type (monopile, pin pile etc), as it is a key metric for the potential impact on marine mammals and fish. **Update at Deadline 2** The Applicant has amended condition 20(1)(d)(iii) of each deemed marine licence in schedules 3 and 4 of the draft DCO to secure that piling methods are specified and submitted for approval as part of the construction method statement. However, maximum hammer energy has not been provided as requested. Therefore no change to our position at Deadline 2. **Update at Deadline 3** No change	The Applicant has added the maximum hammer energies to Schedule 2, Requirement 2(5) of the draft DCO (REP3-013). The Applicant considers this matter is now resolved.

Reference	Natural England Submission	Applicant's response
REP3-049.6	**A7** Micro-siting around features of conservation importance, such as reef of Annex I quality, is a standard mitigation. We recommend that the requirement to consider micro siting around features of conservation importance is secured within the dMLs. **Update at Deadline 2** No change **Update at Deadline 3** No change	A response to this has been provided in the Applicant's Deadline 3 response to Natural England's written submission at Deadline 2 (see REP2-033.6 of REP3-004). The Applicant considers this matter is now resolved.
REP3-049.7	**A7** The Underwater Sound Management Strategy will need to be supplied for both piling and UXO detonation. A minimum of two documents for each licence. This mitigation strategy is required due to the potential for in combination impacts and it is important that the document not be provided too early. Therefore, Natural England requests condition 22 require the plans to be submitted no later than 6 months and no sooner than 9 months prior to the activity. **Update at Deadline 2** No change **Update at Deadline 3** No change	A response to this has been provided in the Applicant's Deadline 3 response to Natural England's written submission at Deadline 2 (see REP2-033.7 of REP3-004). The Applicant does not consider that Natural England has fully explained or justified its position.
REP3-049.8	**Offshore Ornithology** **B1** "Natural England do not consider the Cumulative Effects Assessment (CEA) to be sufficiently robust due to the lack of quantitative consideration of some historic projects. The Applicant has not followed SNCB advice on this matter. Historic projects without quantified impacts have been considered qualitatively. Thus, we consider there to be a high level of uncertainty in the Applicants assessments. Natural England also advise that the Round 4 Irish Sea windfarms should be using the same data to conduct their cumulative and in-combination	As Natural England are aware through their request for final positions for the Morgan Generation Assets to be submitted, the documentation submitted in support of an offshore wind farm development application is invariably voluminous. When this is combined with the different approaches taken to the assessment of key impacts over the last 20 years, it is unsurprising that different projects will calculate differing cumulative and in-combination totals. These differing totals are not incorrect, rather they reflect the expert judgement of the relevant project in relation to the methodology to apply to obtain values for different projects. For example, some older projects will not have assessed displacement impacts in a quantified manner and therefore monthly population estimates will be required to calculate mean-peak population estimates for use in displacement analyses. However, the survey

Reference	Natural England Submission	Applicant's response
	assessments and urge collaboration on this aspect. This is important both with respect to historic projects and the Round 4 projects themselves, especially as these projects are in Examination simultaneously and the impact estimates may be considered subject to change. " **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3 **Update at Deadline 3** Progressed but not resolved. NE have provided advice on the Applicant's CEA gap-filling of historical projects note [REP1-010] in Appendix B3. The results of this exercise have been used to 'stress test' the Applicant's conclusions. We advise that the results of this gap filling exercise should also be used to update the project's impact assessments.	designs applied for older projects were different, meaning few have the temporal survey coverage that would now be required for newer projects. In addition, data may not be presented at the spatial resolution now required to conduct displacement analyses, meaning data may need to be corrected, with multiple methodologies available to conduct these corrections. In many cases, documentation for older projects is no longer publicly available making quantification for these projects impossible unless this documentation had previously been obtained. When this is propagated through to in-combination assessments, additional considerations arise, for example, how to account for the absence of apportioning values in the documentation for older projects. SNCB advice does not extend to these intricacies of cumulative and in-combination assessments, and it should not be expected to, as it is unlikely to predict all of the necessary issues that may arise when collating the information required for cumulative and in-combination assessments. Please also see the Applicant's response to REP3-046.2.
REP3-049.9	**B2** "Natural England have outstanding concerns relating to both the Collision Risk Modelling (CRM) and displacement assessments and subsequent apportioning undertaken by the Applicant which we consider currently preclude any consideration of the conclusions drawn by the Applicants assessments. Key issues are the use of appropriate flying bird density data, not using SNCB preferred flight speed parameters and using specific displacement and mortality rates of auks, rather than the SNCB advised ranges. Greater clarity and transparency is required on the results of assessments, and how these are used in later stages (e.g. apportioning), especially those using various CRM parameters. Furthermore, we consider that the full range of SNCB advised displacement and mortality rates must be considered when apportioning impacts." **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3 **Update at Deadline 3** Progressed but not resolved. The Applicant has provided further information on this point [REP1-011, REP1-012 and REP2-021]. NE have provided	Please see the Applicant's response to REP3-046.2.

Reference	Natural England Submission	Applicant's response
	comments on this in Appendix B3. We advise that updated impact assessments that take full account of SNCB advice in a holistic manner are submitted into the Examination within an updated ES.	
REP3-049.10	**B9** It is highly likely that little gulls observed at the project will also be using the nearby Liverpool Bay SPA and therefore it would be appropriate for the assessment to consider the implications of this. **Update at Deadline 2** No change **Update at Deadline 3** NE consider this a low risk issue. Therefore we consider this matter to be closed at Deadline 3.	The Applicant welcomes the resolution of this matter.
REP3-049.11	**B10** Natural England question if it is safe to assume that flying and sitting birds do not have different distributions. Natural England advise that it may be necessary to use the design-based density estimates for CRM unless the Applicants approach can be demonstrated to accurately describe the densities of flying birds within the array area. **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3 **Update at Deadline 3** NE note the Applicants response to this point, and the information submitted at Deadline 1 [REP2-021]. Given the generally low densities of birds recorded, we consider that a material difference to the conclusions of the impact assessment is unlikely, but continue to highlight that the aggregation of data across the survey area to describe behaviour in a particular part of that area can be problematic. Nevertheless, in the specific case of Morgan Generation OWF, NE consider this matter to be closed at Deadline 3.	The Applicant welcomes the resolution of this matter.
REP3-049.12	**B16** The Applicant should clarify and confirm the method used for CRM and update the submitted documents to reflect this. Regardless of the method	The Applicant welcomes the resolution of this matter.

Reference	Natural England Submission	Applicant's response
	used, clarification is required on the bird density data considered. We highlight that supply of the bootstrapped data is required not only to verify the sCRM, but also to enable future access for consideration in cumulative and in-combination assessments. " **Update at Deadline 2** No change **Update at Deadline 3** The Applicant has responded to this point [REP2-005] by sharing the link to the git hub for the general stochCRM code. This does not detail the input parameters or density data used. However, following clarifications regarding the methods employed, NE are content that appropriate CRM has been undertaken. NE consider this matter to be closed at Deadline 3.	
REP3-049.13	**B17** Natural England note that the great black-backed gull bird length SD has been updated since the provision of draft advice and agreement on the parameters to be used during the EWG engagement process. Natural England are content with the parameters used for the assessment. However, we suggest that if the Applicant undertakes any further CRM the EWG is consulted to confirm the latest guidance is followed. **Update at Deadline 2** No change **Update at Deadline 3** The Applicant has confirmed that the EWG will be consulted if the Applicant undertakes any further CRM. NE consider this matter to be closed at Deadline 3.	The Applicant welcomes the resolution of this matter.
REP3-049.14	**B19** Natural England do not consider it appropriate to use the proportion of birds in flight across the entire surveyed area (array+10km buffer) to estimate the proportions of birds in flight within the array area only, and thus calculate the densities of flying birds that will be considered by CRM. Natural England advise that abundance and density estimates (with associated CIs) of birds on the water and in flight should be calculated separately using design-based methods. For CRM, these densities of birds in flight should be an accurate	The Applicant welcomes the resolution of this matter.

Reference	Natural England Submission	Applicant's response
	representation of the data collected within the array area specifically. Thus, given the uncertainties around the proportions of birds in flight from the model-based density estimates, we advise design-based density estimates of flying birds within the array area should be used in preference. However, in the first instance we recommend a basic analysis to determine if the proportion of birds in flight in the array only is broadly comparable to that across the entire survey area. This may give some comfort that the Applicants approach is appropriate, or alternatively, that further investigation or use of design based estimates is required. **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3 **Update at Deadline 3** The Applicant has provided further information on this point [REP2-021]. NE have provided comments on this in Appendix B3. NE consider this matter to be closed at Deadline 3.	
REP3-049.15	**B21** Natural England advise that the Applicant's chosen methodology for calculating density estimates does not follow best practice guidance. Further, we do not consider it appropriate to take an average of confidence limits. The Applicant should present an updated assessment in line with Natural England's advice on this matter. **Update at Deadline 2** No change **Update at Deadline 3** Progressed but not resolved. NE provided recommendations to resolve this issue within our RRs (REP-026, comment ref: B21). The Applicant's response to our RR's (PD1-017, comment ref: RR-026.B62) does not address our concerns, therefore no change to our position at Deadline 3.	The Applicant has previously provided a response to this point (please see the Applicant's response to RR-026.B.57, RR026.B.62 and RR-027.9 in PD1-017 and REP1-056.12 in REP2-005).
REP3-049.16	**B22** "Natural England highlight that the estimates calculated using SNCB advised parameters should be progressed through all stages of the assessment. Impacts estimated using the SNCB advised approach must be considered for	Please see the Applicant's response to REP3-046.2. Please also see the Applicant's response to RR-026.B.62 in Applicant's Response to Relevant Representations (PD1-017).

Reference	Natural England Submission	Applicant's response
	apportioning, when calculating increases in baseline mortality, and in any subsequent PVA. For clarity, Natural England request that the results of CRM arising from the SNCB advised flight speed and avoidance rates are highlighted in updated tables. " **Update at Deadline 2** No change **Update at Deadline 3** NE provided recommendations to resolve this issue within our RRs (REP-026, comment ref: B22). The Applicant's response to our RR's (PD1-017, comment ref: RR-026.B63) and does not address our concerns, therefore no change to our position at Deadline 3. NE would highlight that the confidence intervals associated with collision estimates (including those for the SNCB advised input parameters) should be used throughout the assessment to assess the full range of potential effects. This approach should be employed to ensure screening sites for LSE is precautionary.	The Applicant does not agree with the approach recommended by Natural England in relation to confidence intervals. Confidence intervals serve to describe the variation around a mean value, not as an additional scenario which requires assessment. The 95% confidence interval metric used by the Applicant describes the range within which 95% of calculated values may occur, with values at the upper and lower ends of the range far less likely to occur than those in the middle. Previous applications and, where it has been required, compensation, have been based on the mean or median metric and therefore this is considered equally applicable for the Morgan Generation Assets. The assessments presented also already incorporate significant precaution meaning the likelihood of the predicted impacts occurring is already unlikely (for further discussion on this point please refer to MacArthur Green, 2019). The screening approach applied by the Applicant is already significantly precautionary, applying foraging ranges representing the standard deviation of the average of the maximum trip lengths undertaken by birds and the inclusion of features for which the impact is more than zero (i.e. more than 0.04 birds/annum). Confidence intervals associated with all collision risk estimates, including those representing the SNCB's position, are provided in Volume 4, Annex 5.3: Offshore ornithology collision risk modelling technical report (APP-055).
REP3-049.17	**B23** Natural England are not persuaded that the use of flight speeds derived by Skov et al (2018) as proposed is appropriate. Further, we urge general caution when proposing alternative parameters due to the methods used to define avoidance rates. The calculation of avoidance rates involves a comparison of how many collisions are predicted by the model, in the absence of avoidance and using given parameters, with real-world collision data collected from wind farms. If the model parameters are changed so that fewer collisions are predicted in the absence of avoidance, then a lower avoidance rate may also be warranted - the smaller the gap between predicted (without avoidance) and observed collisions, the lower the avoidance rate. If the Applicant wishes to retain their review of evidence and proposed updates to flight speed parameters, a full consideration of the implications of this should be reflected within that review i.e. that other parameters may also need to be recalculated.	The Applicant welcomes the resolution of this matter.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 2 No change **Update at Deadline 3** NE note that the Applicant's position on this issue does not influence the impact assessment presented in line with SNCB guidance. NE consider this matter to be closed at Deadline 3.	
REP3-049.18	**B24** Natural England do not currently consider the use of species-specific rates to be appropriate for CRM. In short, this is because the paucity of offshore, species-specific data undermines the confidence we can place in species-specific rates at this stage. Further, some of the high value collision data collected offshore could not confirm specific species identifications, so there is more data to inform grouped rates in some cases. Again, we highlight that the estimates calculated using SNCB advised parameters should be progressed through all stages of the assessment. **Update at Deadline 2** No change **Update at Deadline 3** NE are content that assessments that consider CRM undertaken according to best practice guidance and SNCB advice have been presented, and the results considered through all stages of impact assessment. As multiple assessment scenarios are presented throughout, we highlight the importance of clarity in the submitted documents regarding the use of the correct parameters at all stages of the 'SNCB advised' impact assessment scenario. NE consider this matter to be closed at Deadline 3.	The Applicant welcomes the resolution of this matter.
REP3-049.19	**B26** Natural England advise that Seabirds Count data be used for apportioning to colonies in the breeding season. The Applicant should present an updated assessment using Seabirds Count data. For apportioning in the non-breeding season, the Applicants approach remains appropriate. **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3	Please see the Applicant's response to REP3-046.2.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 Progressed but not resolved. The Applicant has provided further information on this point (REP1-011, REP1-012 and REP2-021). NE have provided comments on this in Appendix B3.	
REP3-049.20	**B27** The Applicant has followed a method developed by Hornsea Project Two to undertake kittiwake age apportioning which SNCBs do not support. Natural England reiterate the SNCB advice provided to the EWG, that we do not agree with the use of this method. Natural England advise a more appropriate approach for age-apportioning kittiwakes in the breeding season would be to simply use the 84.11% of adults recorded in the Morgan site-specific DAS data. Alternatively, given the general uncertainty around the value of ageing data for kittiwakes we advise the Applicant should take a precautionary approach and assume all birds present in the breeding season are adults for the purposes of impact assessment. **Update at Deadline 2** No change **Update at Deadline 3** Natural England advises that the Applicant's response (RR-026.B.68 and RR-027.27 [PD1-017] does not address our initial advice. We reiterate that the SNCBs do not support the Applicant's methodology for kittiwake age apportioning. We continue to advise that the Applicant use the 84.11% of adults recorded in the Morgan site-specific DAS data to undertake kittiwake age apportioning and submit this into Examination.	The Applicant has submitted a clarification note addressing this issue at Deadline 3 (Kittiwake apportioning clarification note (REP3-020)) and awaits Natural England's response. The clarification note concludes that the exclusion of older immatures from the apportioning value applied in the breeding season makes no material difference to the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). Please also see the Applicant's response to REP3-046.2.
REP3-049.21	**B28** Natural England acknowledges that sabbaticals represent a knowledge gap for ecologically realistic impact assessments. However, we do not believe that simply removing them from assessments during apportioning is appropriate. We therefore welcome the presentation of results derived from adult populations that have not been altered to take sabbaticals into account. We advise that integrity judgements should be based on assessments that do not remove sabbatical birds at the apportioning stage. **Update at Deadline 2**	The Applicant welcomes the resolution of this matter.

Reference	Natural England Submission	Applicant's response
	No change **Update at Deadline 3** Natural England acknowledge the Applicant's response and advise that we are broadly content with the Applicant's responses at Deadlines 1 and 2. However, we advise that the wording within the submitted application should be updated with the clarification given by the Applicant in their response (B.69, B.70 [PD1-017]). As we have no further comments to make, NE consider this matter to be closed at Deadline 3.	
REP3-049.22	**B29** Natural England consider it of fundamental importance that the discussion around sabbatical rates remains evidence-based and fully considers the quality of any evidence, its more general applicability, the high levels of uncertainty and significant residual knowledge gaps. Natural England advise that the Applicant should ensure assessments that do not apportion sabbatical birds are clearly presented, and that those mortality estimates are considered in relation to baseline mortality and taken through to PVA where required. **Update at Deadline 2** No change **Update at Deadline 3** Natural England acknowledge the Applicant's response and advise that we are broadly content with the Applicant's responses at Deadlines 1 and 2. However, we advise that the wording within the submitted application should be updated with the clarification given by the Applicant in their response (B.69, B.70 [PD1-017]). As we have no further comments to make, NE consider this matter to be closed at Deadline 3.	The Applicant welcomes the resolution of this matter.
REP3-049.23	**B31** For the great black-backed gull PVA, the Applicant has used the herring gull survival rates, including using the adult herring gull figure. Natural England advise using the herring gull 0-1 year survival rate and the adult great black-backed gull rate detailed in Horswill and Robinson, which is considered precautionary in terms of weighted mean survival rates for 1% thresholds.	The Applicant has provided responses to this matter previously (please see the Applicant's response to RR-026.B.72 in PD1-017) and has no further comment on this matter.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 2 No change **Update at Deadline 3** No change	
REP3-049.24	**B32** Natural England note that the Applicant presents two total mortality impacts for consideration by PVA of great black backed at the Isles of Scilly (IoS) SPA. Two different avoidance rates are detailed. However, it is not clear here if all other parameters considered in the CRM to derive these estimates are in line with SNCB advice, or those preferred by the Applicant (or a mixture). Please clarify the parameters used to derive mortality estimates considered in the PVA models. Natural England reiterate that we will only consider the findings based on our recommended parameters when making integrity judgements. **Update at Deadline 2** No change **Update at Deadline 3** Natural England advise that the findings of the CEA gap fill exercise should be considered throughout the project's impact assessment. This may necessitate an updated PVA for the in-combination impact on great black-backed gull at the Isles of Scilly SPA to clarify the level of potential impact.	Please see the Applicant's response to REP3-046.2.
REP3-049.25	**B33** The Applicant presents evidence relating to displacement of auks to justify the consideration of 50% displacement rates and 1% mortality rates in the assessment, drawing on APEM (2002) and MacArthur Green (2023). Natural England do not agree with the Applicant's interpretation of this evidence, and highlight that a recent study in the German North Sea suggested that displacement of auks could be occurring at much greater distances from OWFs (up to 19.5km) than are currently considered by best practice impact assessments (Peschko et al, 2024). Natural England therefore advise that SNCB guidance is followed throughout the assessments so we can provide our advice into the Examination. **Update at Deadline 2**	Please see the Applicant's response to REP3-046.2 and REP3-049.29.

Reference	Natural England Submission	Applicant's response
	No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3. **Update at Deadline 3** The Applicant has provided further information on this point (REP1-011). NE have provided comments on this in Appendix B3. We advise that our initial position on this remains unchanged until our concerns have been fully addressed. The Applicant has not provided apportioned impacts across the full range of displacement and mortality rates advised by SNCBs.	
REP3-049.26	**B36** "Our pre-application advice detailed a pragmatic hierarchical method to 'gap-fill' the Irish Sea cumulative & in-combination assessments, given the number of historic projects in the Irish Sea (Annex I). The proposed approach was relatively basic, with acknowledged limitations but was designed to generate indicative estimates for currently unknown (zeroed) impacts. This would then enable more informed expert judgement to be made on the likelihood of significant impacts and Adverse Effect on Integrity (AEoI), and thus if further investigation by a more rigorous assessment was warranted. Despite this, the Applicant's cumulative and in-combination assessments still do not quantitatively consider impacts from a number of relevant projects due to the acknowledged lack of data. Impacts specified as 'unknown' have been assessed qualitatively, but ultimately treated as zero. This approach will inevitably underestimate impacts and compromises future assessments for any further development in the region. Natural England continue to advise this approach is unacceptable, and hence consider it inappropriate to comment on the potential significance of cumulative or in-combination impacts presented. " **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3. **Update at Deadline 3** Progressed but not resolved. NE have provided written comments on the Applicant's CEA gap-filling of historical projects note [REP1-010] in Appendix B3. The findings of this note and other 'stress-testing' assessments now need to be incorporated into a fully-updated impact assessment.	Please see the Applicant's response to REP3-046.2.

Reference	Natural England Submission	Applicant's response
REP3-049.27	**B37** While Natural England consider that project alone impacts are likely to be relatively small, a number of methodological issues must be resolved before we can take an informed view on the conclusions of the assessment. Natural England advise updating the assessments and their conclusions as required. **Update at Deadline 2** No change **Update at Deadline 3** No change	Please see the Applicant's response to REP3-046.2.
REP3-049.28	**B41** Natural England advise that red-throated diver and common scoter at Liverpool Bay SPA should be assessed in the HRA Stage 2 ISAA Part 3 report. Vessel traffic should be considered from port to site as well as within the array, and any overlap with protected sites and the distribution of these features within the site properly considered. We note the commitment to secure and adhere to best practice vessel operations to minimise disturbance and suggest that the assessment fully considers the value and potential effectiveness of such measures. As regards suitable measures, Natural England has developed a Best Practice Protocol setting out some examples. **Update at Deadline 2** No change **Update at Deadline 3** NE notes and welcomes the request from the ExA to the Applicant to provide an outline Offshore EMP. We advise that the adoption of best practice vessel operations as per Natural England's Best Practice Protocol (Appendix B3 of RR-026). Once this mitigation is secured within the outline Offshore EMP and submitted into Examination, it is likely that we can agree that an AEoI from operation and vessel movements can be ruled out. We will revisit this comment when the Applicant provides an outline Offshore EMP.	It is the Applicant's understanding based on recent discussions with Natural England (13 November 2024) that the matter in relation to the Liverpool Bay SPA will be resolved through the submission of the Outline Offshore EMP submitted at Deadline 4 (S_D4_11) (see also REP2-018 and APP-070).
REP3-049.29	**B47** Natural England do not consider the Applicant's use of single values of 50% displacement and 1% mortality to be appropriate. We continue to advocate for a range based approach to displacement assessments to capture the very	The Applicant has presented full displacement matrices at an EIA level (i.e. unapportioned to SPA/Ramsar populations) in Volume 4, Annex 5.2: Offshore ornithology displacement technical report (APP-054). The only English SPA for which an LSE was identified for a species considered in relation to

Reference	Natural England Submission	Applicant's response
	high levels of uncertainty in potential rates of both displacement and mortality, and advise that the project fully considers the SNCB advised ranges of displacement and mortality rates in all assessments. **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3. **Update at Deadline 3** Progressed but not resolved. The Applicant has provided further information on this point (REP1-011). NE have provided comments on this in Appendix B3. We advise that our initial position on this remains unchanged until our concerns have been fully addressed. The Applicant has not provided apportioned impacts across the full range of displacement and mortality rates advised by SNCBs.	displacement impacts was the Isles of Scilly SPA/Isles of Scilly Ramsar. The Applicant has presented a full apportioned displacement matrix for Manx shearwater in REP1-011. In the step 1 integrity test, the total impact apportioned to the Manx shearwater feature of this SPA was less than 0.1 birds/annum, representing less than a 0.01% increase in baseline mortality. Even if the upper limits of the displacement and mortality ranges recommended by Natural England were to be applied this still would not result in an impact representing more than a 0.05% increase in baseline mortality of the SPA population. A no adverse effect conclusion would therefore be reached in relation to the Manx shearwater feature of the Isles of Scilly SPA/Isles of Scilly Ramsar site. Please also see the Applicant's response to REP3-046.2. The Applicant has held recent discussions with Natural England (13 November 2024) and is working with Natural England to provide a summary of data to be submitted into the Examination as advised. It is considered that this will provide Natural England with the information necessary to close out many of the outstanding issues relating to the methodologies applied without the need for updated assessment documentation.
REP3-049.30	**B48** Natural England are not persuaded that the evidence on displacement effects presented is sufficient to justify the Applicants position. We highlight that a comprehensive evidence review has not been undertaken and the interpretation of some evidence is questionable. Natural England advise that a range of displacement rates should be considered (30-70%) throughout the assessments. **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3. **Update at Deadline 3** Progressed but not resolved, see update at B47 above.	Please see the Applicant's response to REP3-046.2 and REP3-049.29.
REP3-049.31	**B49** Natural England are concerned that the range of predicted collision impacts presented in the Step 1 assessment tables of the HRA Stage 2 ISSA Part 3 (SPAs and Ramsar's) are not based on the results of CRM calculated using the SNCB advised model parameters. Natural England reiterate that we will	Please see the Applicant's response to REP3-046.2.

Reference	Natural England Submission	Applicant's response
	only consider the conclusions of assessments that follow SNCB guidance and therefore seek an updated assessment which clearly presents CRM outputs based on all SNCB advised parameters. **Update at Deadline 2** No change - additional material on this point was submitted at Deadline 1 which NE will respond to at Deadline 3. **Update at Deadline 3** Natural England are content that CRM undertaken using SNCB advised model parameters has been presented. However, we continue to request that the impacts predicted using the SNCB advised approach to CRM are very clearly highlighted throughout the submitted documents and form the basis of any updated assessments.	
REP3-049.32	**B53** Natural England advise that if vessel movements are expected to transit through the Liverpool Bay SPA then they should strictly adhere to pre-existing shipping routes to reduce the risk of additional disturbance to wintering red throated diver and common scoter. The levels of existing shipping traffic, as well as red-throated diver and common scoter density distribution in those areas may require consideration to ascertain the likely additional impacts of vessel movements associated with the project. **Update at Deadline 2** No change **Update at Deadline 3** See update at B41 above.	Please see the Applicant's response to REP3-049.28.
REP3-049.33	**B54** The Applicant has not proposed any post-consent monitoring in relation to offshore ornithology. We advise that the Applicant should commit to post-consent monitoring in relation to key offshore ornithology receptors, drawing on SNCB advice regarding potential risks and Natural England's Phase IV post-consent monitoring and environmental considerations in our Best Practice Advice. We advise that Natural England should be consulted on the suitability of any post consent monitoring proposed.	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]) and the Applicant provided a detailed response to the ExA's questions on this matter in MO 1.13 and GEN 1.8 (REP3-006). The Applicant maintains that ornithological monitoring is not required, for the following reasons, summarised from REP3-006: • The impact magnitudes predicted for the Morgan Generation Assets are much lower than those predicted for other offshore wind farms in UK waters

Reference	Natural England Submission	Applicant's response
	Update at Deadline 2 No change **Update at Deadline 3** No change. Please see appendix H3 for our response. Natural England would welcome further engagement once the Applicant has proposed ornithological monitoring within the IPMP.	• Conducting post-consent monitoring to address areas of uncertainty at a project which has limited impacts on offshore ornithological receptors and therefore low abundances of focal species is of little value • The presence of relatively low numbers of birds, make it highly probable that any monitoring programme would be unable to provide conclusions that were statistically robust • Areas of uncertainty relevant to the Morgan Generation Assets are more effectively addressed at projects where seabird abundances are higher or through strategic monitoring programmes • The Applicant is a contributor to a number of strategic research programmes (including the Offshore Wind Evidence and Change (OWEC) Programme), which address uncertainties associated with species in the Morgan Generation Assets assessments, and the Applicant plans to continue this involvement during the operation of the Morgan Generation Assets • The Applicant maintains that there is solid justification for not undertaking project specific ornithological monitoring in this instance.
REP3-049.34	**B55** While we are in general agreement with the Applicant that their project-alone impacts are low, Natural England do not currently consider it appropriate to comment on the assessment conclusions. This is due to a number of methodological issues. We would particularly highlight the issues arising from deviations from SNCB advice in the assessment of displacement and collision, and especially the consideration of historic impacts in the cumulative and in-combination assessments. **Update at Deadline 2** No change **Update at Deadline 3** No change	It is the Applicant's position that an updated assessment is not required as the conclusions of all sensitivity analyses indicate that the issues that they are addressing have no material impact on the conclusions reached in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). Similarly, if the impacts from Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) or the clarification notes submitted into the Examination were to be used by future projects, the differences would also make no material difference to the conclusions of future assessments. Please also see the Applicant's response to REP3-049.29. The Applicant has held recent discussions with Natural England (13 November 2024) and is working with Natural England to provide a summary of data to be submitted into the Examination as advised. It is considered that this will provide Natural England with the information necessary to close out many of the outstanding issues relating to the methodologies applied without the need for updated assessment documentation.
REP3-049.35	**Marine Mammals**	The Applicant notes the response and will consider the NE response.

Reference	Natural England Submission	Applicant's response
	C1, C11 & C35 "Natural England have concerns on the assessment methodology. We see the issues as follows: • Dual effect categories in the assessment matrix where in certain cases non-significant and significant effects can result from the same combination of magnitude and sensitivity. It is generally accepted that the assessment should follow the precautionary principle thus further justification is needed when lower effect categories are chosen. Or, ideally, dual categories in the matrix should be avoid. • Terminology used to base the conclusions of the assessment is not defined thus there is uncertainty as to what spatial or temporal scale terms such 'short term', 'medium term', long term', "temporary", "small scale", "regional', 'highly localised' mean. The assessment methodology be revised." **Update at Deadline 2** No change **Update at Deadline 3** NE support the ExA's request (MM 1.11) to the Applicant to provide further information. NE will consider this point further after we have received additional information at the relevant deadline. Therefore, our position remains unchanged at deadline 3.	
REP3-049.36	**C2 & C12** "Natural England has concerns regarding the conclusion of negligible magnitude for injury and disturbance to marine mammals, especially harbour porpoises, from elevated underwater sound due to piling activities. We note that the assigned magnitude in the previous iteration of the assessment presented at PEIR was low thus we ask for further justification why this score has been downgraded. At PEIR, Natural England stated that "we do not agree that assigned magnitude low is appropriate for Permanent Threshold Shift (PTS) as it is irreversible injury. As per magnitude definition (Table 9.11 …"the impact would lead to permanent effects on individuals"…), the more appropriate score would medium". Revise the assigned magnitude scores in relation to injury and disturbance form piling activity."	The Applicant considers the responses on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C2 and C12)to be robust (PD1-017). The Applicant highlighted that with the implementation of primary and tertiary mitigation, there would be no residual risk of injury to marine mammals and therefore the conclusion of a negligible magnitude is evidenced and appropriate.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 2 No change **Update at Deadline 3** Without Noise Abatement Systems (NAS) being deployed, it is NE's view that the magnitude scores, in relation to injury and disturbance from piling activity, cannot be concluded as negligible. The Applicant should provide robust evidence for the reasoning behind choosing this category of magnitude. Our position remains unchanged.	
REP3-049.37	**C3 & C13** "There is over-reliance in the assessment on Acoustic Deterrent Devices (ADDs) as a key mitigation tool to prevent the injury while the impact of the additional noise produced by ADDs has not been taken into the consideration. The onus should be on reducing the noise at the source as a priority (please see our advice below on Noise Abatement Systems (NAS)). Furthermore, careful consideration needs to be given when choosing the right type of ADD to be used to balance prevention of injury with production of unnecessary noise with potential negative effects. If relying on ADDs as a main mitigation tool to reduce the risk of injury, the impact of additional noise produced by ADDs, and any unintended consequences, should be acknowledged and considered in the assessment which is especially important for harbour porpoises and cumulative assessment. " **Update at Deadline 2** No change **Update at Deadline 3** No change	The Applicant considers the responses on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C3 and C13) to be robust (PD1-017). The Applicant highlighted that the final MMMP will be developed in consultation with key SNCBs, including Natural England, and that there will be due consideration to the judicial use of ADDs as a mitigation tool. The Applicant notes that there has been no update on Natural England's position at further deadlines and maintains that this issue does not materially affect the conclusions or validity of the assessment within Volume 2, Chapter 4: Marine mammals (AS-010).
REP3-049.38	**C4** "Natural England does not support use of scare charges for UXO clearance thus we advise that this measure is removed from the final Marine Mammal Mitigation Protocol (MMMP)". **Update at Deadline 2** No change	The Applicant considers the response on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C4) to be robust (PD1-017). The Applicant highlighted that the final MMMP will be developed in consultation with key SNCBs, including Natural England, and that there will be due consideration to the judicial use of scare charges as a mitigation tool if required. The Applicant highlights that such charges would only be required in the event of high order detonation of UXOs and that, as per the mitigation hierarchy set out in the outline UWSMS (APP-068) and the

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 No change	outline MMMP (APP-072), the preference is for a low order clearance option in the first instance. The Applicant notes that there has been no update on Natural England's position at further deadlines.
REP3-049.39	**C5, C21 & C43** "Standard industry mitigation measures are intended to minimise the risk of injury, thus they cannot be used as a justification to conclude that there will be no significant disturbance of the species. Mitigation measures aimed to reduce disturbance should be considered instead of relying on measures for reducing the risk of injury. This needs to be revised throughout the assessment." **Update at Deadline 2** No change **Update at Deadline 3** No change	The Applicant considers the responses on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C5, C21, C3) to be robust (PD1-017). The Applicant highlighted that the strategy presented in the Outline UWSMS (APP-068) is for minimising the risk of both injury and disturbance to marine mammals whilst the Outline MMMP (APP-072) is focussed on reducing the risk of injury. The Applicant directed Natural England specifically to both these application documents which have been reviewed and agreed in principle via the EWG process and for the final versions of the UWSMS and MMMP from the Applicant will consult with Natural England post consent prior to seeking MMO approval. The Applicant notes that there has been no update on Natural England's position at further deadlines.
REP3-049.40	**C7** "Natural England strongly advises the Applicant to commit to using noise abatement (NAS) as mitigation during construction. Noise abatement systems are proven to reduce the level of noise generated by piling and its propagation through the marine environment. As the noise levels are reduced at or close to the source, the range and area over which noise-related impacts occur will be reduced significantly. Defra will be publishing a marine noise policy paper soon (announced at MMO workshop, 13th March 2024) which will include the expectation that all offshore wind pile driving activity in English waters will be required to demonstrate that they have utilised best endeavours to deliver noise reductions through the use of primary and/or secondary noise mitigation methods in the first instance from January 2025. We expect that the majority of piling from 2025 onwards will not be able to go ahead without noise abatement in place. We strongly advise that the Applicant fully commits to using NAS as mitigation to reduce both injury and disturbance to marine mammals receptors during the construction activities (i.e. piling and high order UXO clearance)." **Update at Deadline 2**	The Applicant considers the response on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C7) to be robust (PD1-017). Please also see the response to the MMO regarding NAS (REP3-037.58 to REP3-037.65 in Table 2.1 in S_D4_6: Applicant's Response to IP submissions submitted at Deadline 3). The Applicant highlights that the final UWSMS will be developed in accordance with the most up to date published guidance and policy. The Applicant notes that there has been no update on Natural England's position at further deadlines.

Reference	Natural England Submission	Applicant's response
	No change **Update at Deadline 3** No change	
REP3-049.41	**C8 & C32** "Natural England notes that the Applicant did not propose monitoring for marine mammals within the Mitigation and Monitoring Schedule document and the Offshore In-principle Monitoring Plan. We do not agree that because no significant impacts are predicted, no monitoring is required. Marine mammal monitoring should be undertaken in addition to the standard monitoring of underwater noise generated from the piling of the first four piles. Further detailed discussion is required on the monitoring plans. The Applicant should compile an in-principle monitoring plan for marine mammals. Detailed requirements for In Principal monitoring (IPMP), can be found in: Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards Phase IV: Expectations for monitoring and environmental requirements at the post-consent phase. This document outlines Natural England's recommendations for an effective IPMP and should be considered when planning monitoring post-consent." **Update at Deadline 2** No change **Update at Deadline 3** No change. We acknowledge the inclusion of the updated In Principle Monitoring Plan and Mitigation and Monitoring Schedule submitted at Deadline 2 (REP2-013). See Deadline 3 Appendix H3 for our response.	The Applicant considers the responses on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C8, C32) to be robust (PD1-017). The Applicant highlights that monitoring for marine mammals has not been proposed on the basis that with the implementation of adopted measures, the risk of injury can be fully mitigated and that the effect of disturbance for all impacts was concluded to be not significant in EIA terms. The Applicant notes Natural England's further response at Deadline 3 in Appendix H3 (REP-047). As set out in the well-established MMO 2014 guidance monitoring is only required if there is a significant effect or new or novel activities. Offshore wind farms have been constructed for over 20 years and around the globe and recently consented projects have not been required to monitor marine mammals. The Applicant maintains that, on the basis of the conclusions of the assessment presented for marine mammals (Volume 2, Chapter 4: Marine Mammals), monitoring is not warranted and nor is the suggestion given by Natural England proportionate to the scale of the effects. The Applicant does not consider that Natural England has fully explained or justified its suggestion that ecological monitoring of marine mammals is required and highlights that for a similar project in proximity to Morgan Generation Assets – Awel y Mor – there was no requirement for marine mammal monitoring even though the project had predicted a larger magnitude effect on bottlenose dolphin. Similarly, for Hornsea Four offshore wind farm in the southern North Sea there was no requirement for any marine mammal monitoring beyond monitoring of the underwater sound during piling of the first four piles.
REP3-049.42	**C15** "It was estimated that there will be an additional 1,929 installation vessel movements during the construction phase within the Morgan Array Area thus there will be a significant increase in traffic in the area outside of the shipping lanes. We also note that the estimated number of animals disturbed by vessels is based on the static impact radii (Table 4.44) thus the conclusions of the assessment are not based on the realistic scenarios. As such, this	The Applicant considers the response on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C15) to be robust (PD1-010). The Applicant thanks Natural England for providing additional information as per Pigeault *et al*. (2024). The Applicant has reviewed this paper which uses proxy data to build a model to predict disturbance to harbour porpoise in a busy shipping channel. For example, the proxy for 'closest approach distance of animals to vessels' was the minimum distance that ships were recorded by AIS to each survey point covered within

Reference	Natural England Submission	Applicant's response
	assessment should be revised, particularly the magnitude, taking into account the increase in the number of vessels in the project area compared to baseline as well as sensitivity of harbour porpoise to vessel noise. This is of particular importance for cumulative assessment with other projects. Furthermore, we do not agree with the statement: "Given the existing levels of vessel activity in the Morgan shipping and navigation study area it is expected that marine mammals could tolerate the effects of disturbance…" considering that the tolerance threshold levels of harbour porpoises to vessel disturbance are not known, claims such as this cannot be made. N.B. The same comment applied to HRA Stage 2 Information to support an appropriate assessment, paragraph 1.6.4.315. Revise the assessment for disturbance from elevated underwater sound due to vessel use and other (non-piling) sound producing activities." **Update at Deadline 2** NE notes the document Annex 3.5 submitted by the Applicant at the pre-Examination procedural deadline. We have reviewed this document, however, it has not addressed our written concerns. **Update at Deadline 3** "NE highlights that the negative effect of vessels on marine mammals has been proven in numerous peer-reviewed papers, including highly cited reviews (Dyndo et al. 2015, Wisniewska et al. 2018, Frankish et al. 2023, Oakley et al. 2017. Erbe et al 2019, Rojano-Donate et al 2023). Further, Natural England does not agree with the statement made in paragraph 1.2.2.9 of Annex 3.5 (PD1-010) that harbour porpoises "may become accustomed" to the presence of vessels. In fact, a recent paper by Pigeault et al. (2024) found that harbour porpoises avoid areas with frequent traffic up to distances of 9 km. Also, the Annex mentions operations and maintenance vessels being slow-moving, and therefore the potential for disturbance would be minimal in relation to vessels transiting through a site (Paragraph 1.2.2.10). However, this is not the case for maintenance vessels which use maximum power to keep their position next to a turbine. This manoeuvre produces high levels of noise, and therefore, has the potential to disturb animals up to greater distances than stationary vessels.	a similar time period but not based on an actual observed distance to a vessel. The Applicant notes therefore that these distances were not based on visual sightings of harbour porpoise taken in the field responding to a vessel and reiterates that the impact assessment presented in the final application (Volume 2, Chapter 4: Marine Mammals ((AS-010))) was derived from empirical field-based evidence where a maximum response range of 7 km was observed. Furthermore, the study by Pigeault *et al* (2024) found that there was a partial effect of the covariate 'number of ships' whereby 5 to 7 ships per minute explained a decrease in harbour porpoise by a quarter (i.e. not 100% disturbance) over a radius of 9 km. Therefore, it is important to interpret the findings with caution and in the correct context. The Applicant has undertaken a comprehensive literature review to support the conclusions of the impact assessment which draws on a multitude of studies looking at disturbance to marine mammals from vessel activity and highlights that this presents a more balanced view. The Applicant also directs Natural England to their response to the ExA's question at Deadline 3 on this same issue (static impact radii) (see response to MM 1.17) as raised by NRW in their written representation (REP1-056) where a detailed justification for the methodology was set out as further evidence to demonstrate that a conservative approach was adopted. The Applicant highlights that this same issue raised on Mona Offshore Wind Project has now been resolved with NRW and there is agreement that the methodology does not materially affect the conclusions of the impact assessment. The Applicant, however, notes that Natural England is not intending to engage further on this issue during Examination and therefore considers the matter to be closed.

Reference	Natural England Submission	Applicant's response
	NE are drawing this particular issue to the ExA's attention as it is an important issue to raise awareness. However, for this particular project, we do not anticipate on engaging with this issue further."	
REP3-049.43	**C22** Given the cumulative number of vessels across all projects as well as large disturbance ranges for some vessels of up to 20km, Natural England does not agree with the assigned magnitude score 'low' for disturbance from elevated underwater sound due to vessel use and other (non-piling) sound producing activities. The assessment should be revised accordingly. **Update at Deadline 2** NE notes the document Annex 3.5 submitted by the Applicant at the pre-examination procedural deadline. We have reviewed this document, however, it has not addressed our written concerns. **Update at Deadline 3** No change. Please see response to Row 12 C15 above.	The Applicant considers the response on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C22) to be robust (PD1-010). The Applicant highlights that the modelled range of effects from the Morgan Generation Asset was 3.6 km with the precautionary range of 7 km applied to the assessment and that this was considered to be robust and evidenced (see response to REP3-049.42 above). The Applicant notes that there has been no update on Natural England's position at further deadlines.
REP3-049.44	**C30** "There is no requirement to use ADDs during the geophysical surveys. Thus, this mitigation should not be considered for these activities and the MMMP updated accordingly" **Update at Deadline 2** No change **Update at Deadline 3** No change	The Outline MMMP has been updated at Deadline 4 (S_D4_12) to clarify that ADDs are not proposed as mitigation for geophysical surveys.
REP3-049.45	**C37** "Natural England disagrees with the conclusion regarding the pre-construction site investigation surveys. Natural England does not consider that a period of several months can be considered a 'very short duration'. New data collected in Wales by Veneruso et al. 2024 should be given credence in the assessment especially given very large disturbance ranges (17.3km). We advise that appropriate mitigation is considered for these surveys within the MMMP and UWSMP. " **Update at Deadline 2**	The Applicant considers the response on this issue previously supplied at Deadline 3 to Natural England's Relevant Representations (RR-026, C37) to be robust (PD1-010). In their response to this Relevant representation, the Applicant noted that he wording presented in 4.9.6.16 was in error. The Applicant considers surveys over a period of 'up to several months' to be of medium-term duration, as set out in paragraph 4.9.6.17 of Volume 2, Chapter 4: Marine Mammals (APP-022). Further to Natural England's submission at Deadline 3, the Applicant highlights that for Sub-bottom Profile surveys, the only appropriate mitigation measures which are currently available are Marine Mammal Observers

Reference	Natural England Submission	Applicant's response
	No change **Update at Deadline 3** The Applicant should follow the JNCC guidelines for mitigation as a minimum. We welcome the Examiner's request (MM 1.23) for the applicant to identify appropriate mitigation measures that could be included in a future iteration of the outline MMMP. We look forward to reviewing the Applicant's response to this question and hope this issue can be resolved.	(MMO) and Passive Acoustic Monitoring. These mitigation measures align with JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys (JNCC, 2017). The Applicant highlights the Final MMMP will be developed post-consent with relevant stakeholders and will consider all feedback provided during the Examination process, and therefore welcomes any further guidance from Natural England on what they would consider suitable mitigation measures in addition to MMO and PAM.
REP3-049.46	**Physical Processes** **D1** Not all worse case scenarios for marine process are agreed. Applicant to provide the necessary updated project parameters, evidence and assessment in updated Application documents. **Update at Deadline 2** In the response to Relevant Representations document (PD1-017, comment ref: RR-026.D.9), the Applicant confirmed further reduction of interconnector cable sandwave clearance width from 104m to 80m. We note this update has been reflected through the total disposal captured within updates to Schedules 3 and 4, Condition 2(g) of the Draft DCO at Deadline 1. NE welcomes this update but advises this should also be captured and updated in the ES named plan or technical document and carried through into any assessment. Therefore our concerns have not been resolved at Deadline 2. **Update at Deadline 3** No change	The Applicant can confirm that the refinement to the project parameters detailed in the response to Relevant Representations document (PD1-017, RR-026.D.9) will be captured in Table 1.13 and Section 1.9.2 of an updated Volume 2, Chapter 1 Physical processes (APP-013) to be submitted Deadline 6.
REP3-049.47	**D3** "Natural England advises that not all potential pressures/impacts have been considered/assessed. Updated ES chapters should be submitted which includes and assesses these pressures/impacts across the EIA ." **Update at Deadline 2** We note that any changes to the MDS parameters for sandwave clearance should be reflected in an updated version of the ES. Therefore, our position	The Applicant can confirm that the refinement to the project parameters detailed in the response to Relevant Representations document (PD1-017, RR-026.D.9) will be captured in Table 1.13 and Section 1.9.2 of an updated Volume 2, Chapter 1 Physical processes (APP-013) to be submitted at Deadline 6.

Reference	Natural England Submission	Applicant's response
	remains unchanged. **Update at Deadline 3** No change	
REP3-049.48	**D4** Further consideration of the mitigation hierarchy is required to ensure that environmental impacts are reduced as much as possible. And All embedded mitigation measures proposed should be secured in the DCO/dML. **Update at Deadline 2** No change **Update at Deadline 3** No change - NE notes that the Applicant have not adopted further mitigation measures as advised in our previous advice and/or secured adequate mitigation measures for marine processes. Therefore, the Applicant's response in RR-026.D.6 does not address our concerns.	The Applicant confirms that Mitigation and monitoring schedule, now referred to as the Commitments Register, has been revised to include consideration of cable protection which is readily removeable (S_D4_16). In development of the draft decommissioning programme prior to construction, the Applicant will consider the use of scour and cable protection which is more readily removable. The specific type of scour protection required will be site specific and details of the design and construction will be outlined within the Offshore CMS developed in consultation with the MMO. Development and agreement of mitigation measures within the Offshore CMS is secured within the DCO dMLs (REP2-011), Schedules 3 and 4, Part 2, condition 20(1)(d).
REP3-049.49	**D6** We advise that further detail is required in the project description to inform the Maximum Design Scenario (MDS) and Environmental Impact Assessment (EIA). **Update at Deadline 2** No change **Update at Deadline 3** No change	The Applicant can confirm that the refinement to the project parameters will be captured in an updated Volume 1, Chapter 3 Project description (APP-010) to be submitted at Deadline 6.
REP3-049.50	**D7** "Natural England queries if the width MDS parameters are realistic for sandwave clearance? Natural England advises that further evidence is required to support the realistic MDS parameters as set out in the DCO/dML. " **Update at Deadline 2** We note that any changes to the MDS parameters for sandwave clearance should be reflected in an updated version of the ES. Therefore, our position	The Applicant can confirm that the refinement to the project parameters detailed in the response to Relevant Representations document (PD1-017, RR-026.D.9) will be captured in Table 1.13 and Section 1.9.2 of an updated Volume 2, Chapter 1 Physical processes (APP-013) to be submitted at Deadline 6.

Reference	Natural England Submission	Applicant's response
	remains unchanged. **Update at Deadline 3** No change	
REP3-049.51	**D8** Further detail on the cable crossing design parameters and impacts assessment are required. These should be in with Natural England's Best Practice Guidance Phase III. Once this is provided we believe that this matter can be readily resolved **Update at Deadline 2** We note the Applicant's response to our Relevant Representations on this matter (PD1-017, comment ref: RR-026.D.10). We recognise that the Applicant has provided some further detail, however we continue to advise that the Applicant should include further details at the consenting stage on locations of cable crossings to provide confidence to competent authorities. **Update at Deadline 3** "Unresolved: NE's initial advice still stands, as a matter of best practice, projects should include all the relevant information on cable crossings in line with Natural England's Best Practice Guidance Phase III at the consenting stage. This includes the locations of crossings as outlined in our Relevant Representation (PP-026, D8). Indicative crossing locations should be provided to demonstrate with certainty that there will be no significant impacts to marine processes. Once this demonstrated and the Applicant has committed to provide final cable crossing details within the CSIP secured in the DCO/dML from NE's perspective, this issue can be readily resolved."	The Applicant outlined in the Applicant's Response to IP submissions submitted at Deadline 2 (REP3-004, REP2-033.54) , and previously in the Applicant's response at the Procedural Deadline (PD1-017, RR-026.D.10), it is not anticipated that cable crossings will be required as there are no recorded existing cables within the Morgan Array Area, so the location of these crossings, if any are required, is not currently known but will be specified in the CSIP in adherence to the Applicant's commitments secured under Schedules 3 and 4, Condition 20(1)(d) of the dMLs within the draft DCO (REP3-013). With regards to Natural England's comments regarding the requirement for the Applicant to provide these locations to demonstrate with certainty that there will be no significant effects on marine processes, the Applicant highlights their Response to Natural England's Relevant Representations (PD1-017, RR-026.D.10). This response explains that the modelling study undertaken presented in section 1.3.6 of Volume 4, Annex 1.1: Physical processes technical report (APP-033) and used to inform the physical processes and benthic ecology assessments, included cable protection and cable crossings at representative locations across the Morgan Array Area. The representative locations are shown in Figure 1.65 of Volume 4, Annex 1.1: Physical processes technical report (APP-033) and were selected to represent the MDS for changes to physical processes particularly will regards to considering the potential for impacts on neighbouring Marine Conservation Zones. The Applicant is, therefore, confident that the MDS for the impact of cable crossings on both physical processes and benthic subtidal ecology has been assessed in Volume 2, Chapter 1: Physical processes (APP-013) and Volume 2, Chapter 2: Benthic subtidal ecology (APP-020), respectively.
REP3-049.52	**D9/D17** Further detail to inform MDS figures for cable repairs and WTG/OSP maintenance e.g. seabed footprint disturbed due to cable repair and infrastructure maintenance, sediment displaced during cable repair and reburial and any associated cable protection is required. Ideally this information would also be included within an Outline Offshore Operation and Maintenance Plan (OOMP) and submitted into Examination.	Please refer to Applicant's Response to IP submissions submitted at Deadline 2 (REP3-004, REP2-033.55). The Applicant reiterates that the greatest foreseeable number of cable reburial and repair events, i.e. the maximum design scenario, has been defined in Table 1.13 and assessed in Section 1.9.2 of Volume 2, Chapter 1: Physical processes (APP-013). The associated seabed footprints related to maintenance activities (equating to 11,362,800 m^2 of disturbance in total) are presented in Table 2.16 and assessed in

Reference	Natural England Submission	Applicant's response
	Update at Deadline 2 No change - we note the Applicant's response but our position remains that MDS for cable repairs and WTG/OSP maintenance should be included within an Outline OOMP and submitted into Examination. **Update at Deadline 3** "We reiterate that all of the MDS figures for cable protection and cable and WTG/OSP maintenance should be provided in the ES, named plan or technical document and carried through into any assessment. Namely: •Footprint of seabed disturbed due to cable and WTG/OSP maintenance; and •Sediment displaced during cable repair and reburial. This information should also be included within an Outline OOMP and submitted into Examination."	Section 2.9 of Volume 2, Chapter 2: Benthic subtidal ecology (APP-020) with regards to temporary habitat loss. Table 1.2 in the Outline offshore operations and maintenance plan (APP-079) also details the greatest foreseeable number and cable length of cable reburial and repair events.
REP3-049.53	**D11** "Natural England notes that there are site specific surveys referenced throughout the chapter which have not been provided with the ES reports. We advise that these should be provided to ensure there are no issues with the EIA as presented. Update at Deadline 2 No change **Update at Deadline 3** No change - These reports were used to inform the Applicant's assessments. Therefore our advice is that the reports should be submitted into Examination to enable future projects/interested parties to access.	Please refer to Applicant's Response to IP submissions submitted at Deadline 2 (REP3-004, REP2-033.56).
REP3-049.54	**D13** Natural England requests that the Applicant confirms all physical processes and impact pathways have been identified and therefore assessed. **Update at Deadline 2** No change - please see comment 1 of this log. **Update at Deadline 3** No change	The Applicant reiterates that all physical processes have been identified and assessed as detailed in the Applicant's Response to Relevant Representations (PD1-017, RR-026.D.15). The Applicant can confirm that the refinement to the project parameters will be captured in Table 1.13 and Section 1.9 of an updated Volume 2, Chapter 1 Physical processes (APP-013) to be submitted at Deadline 6.

Reference	Natural England Submission	Applicant's response
REP3-049.55	**D14** Given the active sediment transport in the study area and the availability of recharge material, we advise that consideration should be given to sandwave recovery monitoring in post-installation surveys. Appropriate survey design and power analysis should be conducted to ensure that adequate data is collected for long term comparisons of the effect of change compared to baseline data." **Update at Deadline 2** No change **Update at Deadline 3** "Resolved: NE welcomes the inclusion of benthic and marine processes monitoring within the updated In Principle Monitoring Plan (REP2-013), and Mitigation and Monitoring Schedule (REP2-015), submitted at Deadline 2. We note that monitoring of sandwave recovery has been committed by the Applicant, we would welcome agreement on the hypotheses the monitoring will test prior to the end of Examination. But otherwise these can be finalised/agreed along with the methodologies prior to construction. Please see our D3 Appendix H3 response. "	The Applicant notes Natural England's written submission and welcomes that this matter is now 'Green' and resolved in the Risk And Issues Log (REP3-049).
REP3-049.56	**D15** Natural England advises that physical process impacts due to UXO clearance should be considered and assessed within updated Application documents. **Update at Deadline 2** No change **Update at Deadline 3** "In Progress: NE notes that the ExA has requested the Applicant to undertake a UXO clearance assessment based on the maximum UXO clearance of 907kg high order explosion and provide a worst case assessment for physical processes and benthic subtidal ecology receptors. NE welcomes this request and will submit a response to the Applicant's response at Deadline 5 if required. "	The scale and extent of any potential craters and the recoverability of the seabed was provided in the Applicant's Response to Relevant Representations (PD1-017, RR-026.D.17) with a further assessment based on the maximum UXO clearance of 907kg high order explosion provided in the Applicant's response to ExA Q1 MP 1.12 submitted at Deadline 3 (REP3-006, MP 1.12). The Applicant can confirm that the assessments provided in these responses will be captured in Table 1.13 and Section 1.9 of an updated Volume 2, Chapter 1 Physical processes (APP-013) to be submitted at Deadline 6.

Reference	Natural England Submission	Applicant's response
REP3-049.57	**D16** Impacts of seabed scour due to the presence of windfarm infrastructure during the operation and maintenance phase has not been included as an impact. Natural England advises that this impact should be considered and assessed by the Applicant and included in the updated application documents. **Update at Deadline 2** No change **Update at Deadline 3** No change: Please see our Deadline 3 response to ExQ MP1.5 Appendix K3.	The Applicant provided further detail on the assessment of seabed scour in the Applicant's Response to Relevant Representations (PD1-017, RR-026.D.18). Additional information on the provision of scour protection to minimise secondary scour is supplied in the Applicant's response to ExA Q1 MP 1.5 submitted at Deadline 3 (REP3-006, MP 1.5).
REP3-049.58	**D18** "Further information on the impacts to the wider marine environment and sediment transport budget as a result of sediment extraction in order to stabilise conical gravity based foundations and disposal of ballast at the time of decommissioning is required. Ideally the latter would be included in an Outline Decommissioning Plan and submitted to support the consenting phase Additionally, we advise that further information is provided on the ballast proposal in-combination with the Mona Offshore Wind Farm Project proposals. " **Update at Deadline 2** No change **Update at Deadline 3** No change: Please see our Deadline 3 response to ExQ MP1.3 Appendix K3.	Please refer to Applicant's Response to IP submissions submitted at Deadline 2 (REP3-004, REP2-033.61) and further information relating sediment extraction provided by the Applicant in response to ExA Q1 MP 1.3 submitted at Deadline 3 (REP3-006, MP 1.3).
REP3-049.59	**D19** The Applicant to check and confirm figures for ballast within the gravity base foundation and ensures that correct volumes are included in any assessment and the DCO/dML. **Update at Deadline 2** No change	Please refer to Applicant's Response to IP submissions submitted at Deadline 2 (REP3-004, REP2-033.62). The Applicant can confirm that Schedule 2, Table 1 of the updated DCO submitted at Deadline 3 (REP3-013) includes the maximum total volume of extracted seabed material to be used in gravity base foundations (490,000 m^3).

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 In Progress: The Applicant has confirmed the MDS and the worst-case scenario is the one presented in the ES. However, we maintain that the volume of material required for ballast should be secured within the DCO/dMLs.	
REP3-049.60	**D22** Natural England advises that all embedded mitigation measures proposed should be agreed prior to consent and secured in the DCO/dML. " **Update at Deadline 2** No change **Update at Deadline 3** No change: There remains insufficient mitigation measures proposed for physical processes. To assist Applicant we provided potential mitigation options which could be explored/adopted to resolve this matter in our RR/WR [RR-026].	Please refer to the Applicant's response to REP3-049.48 above.
REP3-049.61	**D23** Natural England would welcome and encourage the Applicant to consider future monitoring of benthic and physical processes to be included as a commitment to review whether priority habitats/species and morphological features such as sandbanks has recovered from construction activities and these are secured in an In Principle Monitoring Plan. We note that geophysical surveys may be required as a condition of the marine licence. We therefore advise that the surveys should have adequate scope to include long term impact monitoring, with a particular focus on sandwave recovery. " **Update at Deadline 2** No change **Update at Deadline 3** Please see response to D14 Row 12 above. This issue has been resolved at Deadline 3.	The Applicant notes Natural England's written submission and welcomes that this matter is now 'Green' and resolved in the Risk And Issues Log (REP3-049).
REP3-049.62	**D24** "Regardless of legislation or being outside of designated sites, the Applicant	The Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.67) confirms that the Applicant will

Reference	Natural England Submission	Applicant's response
	should aim to remove infrastructure at the time of decommissioning to avoid irreversible (permanent) habitat loss, thus returning the seabed habitat to its pre-developed baseline status as required by OSPAR. Natural England advises that the Applicant considers using scour and cable protection which is more readily removable at the time of decommissioning. We would welcome and encourage this to be secured as a commitment. Ideally this would also be included in an Outline Decommissioning Plan submitted to support the consenting phase. " **Update at Deadline 2** We note that the Applicant will produce a draft decommissioning programme prior to construction. However, our comments around using removable scour and cable protection, and securing this as a commitment remain. We also advise that an Outline Decommissioning Plan is provided as part of the consenting phase **Update at Deadline 3** No change	commit to considering the potential for the use of cable and scour protection which is of such a nature that it may be more readily removable at decommissioning. The Applicant has updated the Mitigation and Monitoring Schedule, now referred to as the Commitments Register (S_D4_16) to address this outstanding comment from Natural England.
REP3-049.63	**Fish and Shellfish Ecology** **E1 & E3** Natural England do not agree with the use of the Outline Marine Mammal Mitigation Protocol (OMMMP) methods of soft starts and ramp ups as a means of mitigation for fish species. We do not include these measures as appropriate mitigation for impacts to fish species. **Update at Deadline 2** NE acknowledges that the Final MMMP will be developed in consultation with relevant stakeholders, including NE. However, we advise that the Schedule of Mitigation and related documents should be updated during the consenting phase. **Update at Deadline 3** No change	The Applicant has updated the Mitigation and Monitoring Schedule, now referred to as the Commitments Register (S_D4_16) to address this outstanding comment from Natural England. This will clarify that use of soft start piling and ramp up measures may not be effective for all fish species and that these measures are not specifically required to avoid significant injury effects on fish receptors.
REP3-049.64	**F1** Not all worse case scenarios for benthic ecology are agreed. Applicant to	The Applicant will commit to updating Table 2.19 and Sections 2.9.2 and 2.11.2 of Volume 2, Chapter 2: Benthic subtidal ecology (APP-020) to

Reference	Natural England Submission	Applicant's response
	provide the necessary updated project parameters, evidence and assessment in updated Application documents. **Update at Deadline 2** In the response to Relevant Representations document (PD1-017, comment ref: RR-026.D.9), the Applicant confirmed further reduction of interconnector cable sandwave clearance width from 104m to 80m. We note this update has been reflected through the total disposal captured within updates to Schedules 3 and 4, Condition 2(g) of the draft DCO at Deadline 1. NE welcomes this update but advises this should also be captured and updated in the ES named plan or technical document and carried through into any assessment. Therefore our concerns have not been resolved at Deadline 2. **Update at Deadline 3** "No change: NE notes that the Applicant claims the reduction in MDS parameters for sandwave clearance does not change the conclusions of the EIA assessment for benthic subtidal ecology. We maintain that any updates to the MDS parameters should be provided in an updated ES named plan or technical document, and carried through into any assessment, to be considered secured and provide clarity for future reference."	incorporate the reduced parameters for sandwave clearance for interconnector cables as detailed in the response to Relevant Representations document (PD1-017, RR-026.F.6). The updated chapter will be submitted at Deadline 6. The Applicant would highlight that, as outlined in the Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004), this refinement is a reduction in the MDS for temporary habitat loss/disturbance and the reduction in sandwave clearance will not alter the outcome of the assessments presented in Volume 2, Chapter 2: Benthic subtidal ecology (APP-020) (i.e. the assessment of temporary habitat loss/disturbance will remain as minor adverse significance which is not significant in EIA terms).
REP3-049.65	**F2/F11** Natural England advises that full consideration of the likely nature, extent, duration, and significance of impacts upon SPA and SAC supporting habitats is required to inform a robust assessment of the likely impacts upon designated ornithological and marine mammal features. **Update at Deadline 2** No change **Update at Deadline 3** "Sufficiently resolved: NE maintains that supporting habitats for SPAs and SACs with mobile features (ornithological features and marine mammals) should be assessed. Following best practice, we advise that this assessment should also be carried out within the benthic and subtidal ecology chapter of the ES as was done for Ornithology.	The Applicant is pleased to note that Natural England considers this point to be sufficiently resolved and welcomes that this matter is now 'Yellow' in the Risk And Issues Log (REP3-049). The Applicant notes that Natural England will not comment on this further during Examination.

Reference	Natural England Submission	Applicant's response
	However, we note from Applicant responses submitted into Examination that this is unlikely to fundamentally change the outcome of the assessments for this project. Therefore, we will provide no further comment on this during Examination."	
REP3-049.66	**F3** Natural England advises that all embedded mitigation measures proposed are secured in the DCO/dML. In addition to the mitigation proposed by the Applicant, we advise that further mitigation in considered by the Applicant. **Update at Deadline 2** No change **Update at Deadline 3** We note that the Applicant intends on securing decommissioning activities through separate standalone marine licenses at the relevant time. NE requests that a commitment is made to remove infrastructure at the time of decommissioning.	The Applicant provided a response to Natural England on the point relating to securing all embedded mitigation measures in the DCO/dML at the Procedural Deadline (PD1-017,RR-026.F.3). The Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.73 and REP2-033.83) confirms that the Applicant will commit to considering the potential for the use of cable and scour protection which is of such a nature that it may be more readily removable at decommissioning. The Applicant has updated the Mitigation and Monitoring Schedule, now referred to as the Commitments Register (S_D4_16), to address this outstanding comment from Natural England.
REP3-049.67	**F4** "Natural England would welcome and encourage the Applicant to consider future monitoring of benthic and physical processes to be included as a commitment to review whether priority habitats/species and morphological features such as sandbanks has recovered from construction activities and these are secured in an In Principle Monitoring Plan. We therefore advise that the surveys should have adequate scope to include long term impact monitoring, with a particular focus on sandwave recovery. " **Update at Deadline 2** No change **Update at Deadline 3** "NE welcomes the inclusion of benthic and marine processes subtidal ecology monitoring within the updated In Principle Monitoring Plan (REP2-013), and Mitigation and Monitoring Schedule (REP2-015), submitted at Deadline 2. Resolved: We note that monitoring of sandwave recovery has been committed by the Applicant, we would welcome agreement on the hypotheses the monitoring will test prior to the end of Examination. But otherwise these	The Applicant notes Natural England's written submission and welcomes that this matter is now 'Green' and resolved in the Risk And Issues Log (REP3-049).

Reference	Natural England Submission	Applicant's response
	can be finalised/agreed along with the methodologies prior to construction. Please see our D3 Appendix H3 response".	
REP3-049.68	**F5** Further detail is required in the project description to inform the Maximum Design Scenario (MDS) and Environmental Impact Assessment (EIA). **Update at Deadline 2** We note that any changes to the MDS parameters for sandwave clearance should be reflected in an updated version of the ES. Therefore, our position remains unchanged. **Update at Deadline 3** No change: All parameters should be included in the Project Description, not just in relation to sandwave levelling to inform MDS and EIA	The Applicant can confirm that the refinement to the project parameters will be captured in an updated Volume 1, Chapter 3 Project description (APP-010) to be submitted at Deadline 6.
REP3-049.69	**F6** "Natural England queries if the width MDS parameters are realistic for sandwave clearance? Natural England advises that further evidence is required to support the realistic MDS parameters as set out in the DCO/dML. " **Update at Deadline 2** We note that any changes to the MDS parameters for sandwave clearance should be reflected in an updated version of the ES. Therefore, our position remains unchanged. **Update at Deadline 3** "No change: NE notes that the Applicant claims the reduction in MDS parameters for sandwave clearance does not change the conclusions of the EIA assessment for benthic subtidal ecology. We maintain that any updates to the MDS parameters should be provided in an updated ES named plan or technical document, and carried through into any assessment, to be considered secured and provide clarity for future reference."	Please refer to the Applicant's response to REP3-049.64 above.
REP3-049.70	**F7** "Further detail on the cable crossing design parameters and impacts assessment are required. These should be in with Natural England's Best	The Applicant has provided a full response at Deadline 3 to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.77) addressing each of the points under the Natural England's Best Practice Guidance Phase III in

Reference	Natural England Submission	Applicant's response
	Practice Guidance Phase III. Once this is provided we believe that this matter can be readily resolved" **Update at Deadline 2** No change **Update at Deadline 3** "Unresolved: NE's initial advice still stands, as a matter of best practice, projects should include all the relevant information on cable crossings in line with Natural England's Best Practice Guidance Phase III at the consenting stage. This includes the locations of crossings as outlined in our Relevant Representation (PP-026, D8). Indicative crossing locations should be provided to demonstrate with certainty that there will be no significant impacts to marine processes. Once this is demonstrated, and given the Applicant has committed to provide final cable crossing details within the CSIP secured in the DCO/dML, from NE's perspective, this issue can be readily resolved."	turn. As outlined in that response, and previously in the Applicant's response at the Procedural Deadline (PD1-017, RR-026.F.7), the location of these crossings, if any are required, is not currently known but will be specified in the CSIP in adherence to the Applicant's commitments secured under Schedules 3 and 4, Condition 20(1)(d) of the dMLs within the draft DCO (REP3-013). With regards to Natural England's comments regarding the requirement for the Applicant to provide these locations to demonstrate with certainty that there will be no significant effects on marine processes, the Applicant highlights their Response to Natural England's Relevant Representations (PD1-017, RR-026.D.10). This response explains that the modelling study undertaken presented in section 1.3.6 of Volume 4, Annex 1.1: Physical processes technical report (APP-033) and used to inform the physical processes and benthic ecology assessments, included cable protection and cable crossings at representative locations across the Morgan Array Area. The representative locations are shown in Figure 1.65 of Volume 4, Annex 1.1: Physical processes technical report (APP-033) and were selected to represent the MDS for changes to physical processes particularly will regards to considering the potential for impacts on neighbouring Marine Conservation Zones. The Applicant is, therefore, confident that the MDS for the impact of cable crossings on both physical processes and benthic subtidal ecology has been assessed in Volume 2, Chapter 1: Physical processes (APP-013) and Volume 2, Chapter 2: Benthic subtidal ecology (APP-020), respectively.
REP3-049.71	**F9** "Natural England notes that there are site specific surveys referenced throughout the chapter which have not been provided with the ES reports. We advise that these should be provided to ensure there are no issues with the EIA as presented. " **Update at Deadline 2** These documents should be officially submitted with the ES. **Update at Deadline 3** No change	The Applicant has provided a response to this point in the Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.78).
REP3-049.72	**F10** "We advise that impacts should be minimised as much as possible, with	The Applicant has provided a response to this point in the Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission

Reference	Natural England Submission	Applicant's response
	consideration being given to the deposition locations in similar habitat type and avoiding sensitive habitats such as Habitats of Principal Importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Natural England advise that this is considered further by the Applicant and updated in the ES accordingly. And any mitigation measures to minimise the impacts secured within the DCO/dML or within a named plan." **Update at Deadline 2** No change **Update at Deadline 3** "No change: Whilst the Applicant's characterisation survey did not identify any Habitats of Principal Importance or Annex I habitats within the survey area, we highlight that some habitats such as sabellaria spp. and mytilus edulis are ephemeral. Therefore, just because they weren't identified in the Applicant's survey does not rule out the possibility of those habitats being present at a later date or being present in pre-construction surveys. We strongly advise that the Applicant should include a commitment to micro-site around sensitive habitats such as Habitats of Principal Importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 where possible. This should be secured in the DCO/ dML or provided in the schedule of mitigation. We highlight that this is standard mitigation and has been included on all recent offshore wind farm consents. Please see East Anglia One North and East Anglia two for recent examples."	(REP3-004, REP2-033.6). The Applicant would also highlight that the dMLs were updated at Deadline 3 to reflect the commitment to micrositing to avoid Annex I reef (see S_D3_6, Schedule 3, condition 20(1)(a); Schedule 4, condition 20(1)(a)).
REP3-049.73	**F14** Natural England would welcome and encourage the Applicant to consider future monitoring of benthic and physical processes to be included as a commitment to review whether priority habitats/species and the seabed morphological features such as sandbanks has recovered from construction activities, and these are secured in an In Principle Monitoring Plan. **Update at Deadline 2** No change	The Applicant notes Natural England's written submission and welcomes that this matter is now 'Green' and resolved in the Risk And Issues Log (REP3-049).

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 Resolved: Please see our response to Row 4/F4 above.	
REP3-049.74	**F15** "Natural England advises that the Applicant needs to consider the potential impacts from UXO detonation on benthic habitats and/or mitigation measures for making the UXO safe without impacting on benthic habitats. Further detail is required on the potential impacts of UXO detonation on benthic habitats and/or mitigation measures to prevent impacts to benthic habitats. " **Update at Deadline 2** It is acknowledged that temporary habitat loss, in relation to UXO clearance, is briefly covered in the Benthic subtidal ecology chapter (APP-020), paragraph 2.9.2.9. However, this paragraph does not summarise the potential total impact of temporary habitat loss as a result of UXO clearance. This should be updated and reflected in the ES. **Update at Deadline 3** No change	The Applicant has provided a response to this point in the Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.82). The Applicant has also responded with more detail on this matter in the Applicant's response to ExAQ1 (REP3-006, MP 1.12). Notwithstanding this, the Applicant will commit to updating Section 2.9.2 of Volume 2, Chapter 2: Benthic subtidal ecology (APP-020) to incorporate the additional detail on crater sizes from UXO clearance as detailed in the Applicant's response to ExAQ1 (REP3-006, MP 1.12). The updated chapter will be submitted at Deadline 6.
REP3-049.75	**F16** "Regardless of legislation or being outside of designated sites, the Applicant should aim to remove infrastructure at the time of decommissioning to avoid irreversible (permanent) habitat loss, thus returning the seabed habitat to its pre-developed baseline status as required by OSPAR. Natural England advises that the Applicant considers using scour and cable protection which is more readily removable at the time of decommissioning. We would welcome and encourage this to be secured as a commitment. Ideally this would also be included in an Outline Decommissioning Plan submitted to support the consenting phase. " **Update at Deadline 2** We note that the Applicant will produce a draft decommissioning programme prior to construction. However, our comments around using removable scour and cable protection, and securing this as a commitment remain. And advise that this is secured in an outline decommissioning plan at the time of consent	The Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.83) confirms that the Applicant will commit to considering the potential for the use of cable and scour protection which is of such a nature that it may be more readily removable at decommissioning. The Applicant has updated the Mitigation and Monitoring Schedule, now referred to as the Commitments Register (S_D4_16), to address this outstanding comment from Natural England.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 No change	
REP3-049.76	**F20** "The following plans are mitigation measures, these should be considered at the time of consent: - Biosecurity Risk Assessment - Outline EMP - Marine Pollution Control Plan (MPCP) To inform consenting, these plans should be provided as part of the application and submitted into Examination." **Update at Deadline 2** Natural England notes that the Applicant intends to produce a Marine Pollution Contingency Plan and Outline EMP post consent. However, we maintain that these documents should be submitted into Examination to inform consenting. **Update at Deadline 3** No change	The Applicant's has submitted an Outline Offshore Environmental Management Plan (EMP), which includes an Outline marine pollution contingency plan (MPCP) and outline measures to minimise the potential spread of invasive non-native species, at Deadline 4 (S_D4_11). The Applicant considers that this now resolves this matter.
REP3-049.77	**Other Plans** **G2** We strongly advise that rather than focusing on the exact details of the surveys, and as highlighted by the Applicant, the IPMP should set out the fundamental hypotheses/questions that will be tested by the monitoring based on the outcomes of the HRA, EIA and address issues of uncertainty and/or residual impacts. while there is agreement that IPMPs are finalised post consent based on project design and timescales; this should not limit updating and agreeing the IPMP prior to consent. **Update at Deadline 2** Natural England provided detailed comments on the outline IPMP at deadline 1. We will continue to engage with this if any updates are provided throughout Examination. **Update at Deadline 3** In progress: Please see our Deadline 3 Appendix H3	The Applicant responded to Natural England's detailed comments on the outline IPMP (REP2-005) and submitted an updated In-Principle Monitoring Plan (REP2-013) at Deadline 2. The final monitoring plan developed post-consent will set out the specific hypotheses to be tested, monitoring objectives and duration of surveys (as required by Schedules 3 and 4, Part 2, conditions 27(1), 27(2), 28(1) and 29(1) of the dMLs within the draft DCO (S_D4_8). The Applicant reiterates that monitoring will be influenced by the final design of the Morgan Generation Assets and therefore greater detail on specific hypotheses, monitoring objectives and duration of surveys cannot yet be provided.

Reference	Natural England Submission	Applicant's response
REP3-049.78	**G3** We advise that the DCO/dML conditions should ensure that the monitoring is relevant to the issues raised, and that adaptive management is secured should post-construction monitoring identify impacts that are significantly outside of those predicted in the Application. **Update at Deadline 2** Natural England has updated the RAG status to align with DCO/dML point, but there remains no resolution on this point **Update at Deadline 3** In progress: We acknowledge the updated IPMP submitted by the Applicant at deadline 2 (REP2-013). However, we reiterate that adaptive monitoring should be secured.	The Applicant has previously set out its position as to why a blanket requirement for adaptive management and monitoring is not justified or required. The Applicant does not consider that Natural England has justified why it considers such monitoring and adaptive management necessary for the Proposed Development. To seek to impose this as a standard requirement is wholly unjustified.
REP3-049.79	**G4** Natural England advises that a key consideration is that the type of scour protection used will be removable upon decommissioning. Options that involve introducing plastic to the marine environment have the potential to degrade during the lifetime of the project and raise concerns with regards to marine pollution. The Applicant should seek to identify the most sustainable and removable form of scour protection. **Update at Deadline 2** No change **Update at Deadline 3** No change: NE acknowledges that the Applicant will produce an Offshore Construction Method Statement and a draft Decommissioning Plan. However, as with NE comment G7, an outline decommissioning plan should be submitted into Examination.	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). The Applicant will commit to considering the most sustainable and removable form of scour protection. Please also see the Applicant's response to ExQ1 GEN 1.21 (REP3-006) which stated that a separate legislative regime is in place under the Energy Act 2004 to control the decommissioning process for offshore renewable energy installations and it is not considered necessary or appropriate to duplicate this through consents issued under the Planning Act 2008. Therefore, no outline decommissioning plan is considered to be necessary for inclusion with this application.
REP3-049.80	**G6** We advise the Applicant considers lessons learnt from other wind farm projects in relation to potential scour and cable exposure, particularly around Wind Turbine Generations (WTGs), and that this is evidenced within the plan. **Update at Deadline 2** No change	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). The Applicant also confirmed in REP3-004 that the project design envelope for operations and maintenance activities has been informed by industry experience of the Applicant on other offshore wind assets, and will also inform the final Offshore Construction Method Statement (CMS). The Applicant considers this matter to be closed.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 No change	
REP3-049.81	**G7** The Applicant should produce an Outline Decommissioning Plan that outlines all decommissioning options (maintain, full removal and partial removal) during the consenting phase. These options can be assessed and refined closer to the time of decommissioning itself in consultation with Natural England. **Update at Deadline 2** No change **Update at Deadline 3** No change	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). It is noted that the MMO is in agreement with the Applicant's approach in that the decommissioning programme is updated during the Morgan Generation Assets lifespan to take account of changing good practice and new technologies and that the scope of the decommissioning works is determined by the relevant legislation and guidance at the time of decommissioning. This is outlined in the MMO Deadline 2 Submission (REP2-029, RR-020.39). Please see also response to REP3-049.79 above.
REP3-049.82	**G8** Further detail on cable protection, scour protection and cable burial which would ideally be included in the final version of the Cable Burial Risk Assessment (CBRA) sound be considered further. We advise that the CBRA should be informed by geotechnical data to further understand the scour and cable protection requirements to ensure that a realistic worst-case scenario is presented. **Update at Deadline 2** No change **Update at Deadline 3** No change	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). The Applicant has since committed to providing an Outline Offshore Construction Method Statement (CMS), submitted at Deadline 4 (S_D4_22). This will include an Outline Cable Specification and Installation Plan (CSIP), including the commitment to carrying out a Cable Burial Risk Assessment (CBRA) post-consent, which will be informed by geotechnical data. The Applicant expects the provision of this document, which captures commitments already made by the Applicant, to enable Natural England to close out this matter.
REP3-049.83	**G9** We advise that it is critical that engineering decisions include a hierarchy of the different cable protection methodologies and their relative environmental impacts, and that these work areas are progressed in tandem. We advise that the options for scour prevention and cable protection should be limited to those which sufficiently meet both engineering and ecological requirements and this is agreed as part of the consenting phase. Natural England advise that post-installation/decommissioning recovery will need to be demonstrated by monitoring, particularly for methods where full recovery has not been	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). The Applicant provided an updated In Principle Monitoring Plan (REP2-013) at Deadline 2, with further detail on commitments for monitoring post-installation recovery. Any monitoring required during the decommissioning phase will be set out in the decommissioning programme required under Requirement 5 of the draft DCO (REP2-011), in line with the prevailing guidance at the time.

Reference	Natural England Submission	Applicant's response
	achieved previously in similar sedimentary conditions. **Update at Deadline 2** No change **Update at Deadline 3** No change	The Applicant considers that this matter is closed.
REP3-049.84	**G10** Natural England understand that the Offshore Environmental Management Plan (OEMP) will be produced prior to construction and will be developed following the detailed design process. We advise that until these details are fully understood Natural England cannot provide final comment on the suitability of the management measures proposed. Therefore, we advise that more detail is provided within an outline OEMP and that Natural England are consulted on the final plan prior to construction. We advise a holistic approach to the final plan to bring together all agreed measures across the ES. **Update at Deadline 2** No change **Update at Deadline 3** NE notes and welcomes the request from the ExA to the Applicant to provide an outline Offshore EMP. We will revisit this comment when the Applicant provides an outline Offshore EMP.	The Applicant has prepared an Outline Offshore Environmental Management Plan (EMP) for submission at Deadline 4 (S_D4_11), which includes an Outline marine pollution contingency plan (MPCP) and outline measures to minimise the potential spread of invasive non-native species. The final Offshore EMP will provide the mechanism to implement all commitments already made by the Applicant in relation to the Morgan Generation Assets.
REP3-049.85	**G13** Natural England understands that this is an outline plan, which will be developed post consent. We advise that clarity should be provided regarding how the potential impacts of the finalised plan will be checked against the assessments made in the ES, MCZ Assessment, HRA etc. Sufficient information should be provided at the pre-consent stage to allow operations and maintenance (O&M) activities to be fully assessed. **Update at Deadline 2** No change	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1- 017]). The Applicant confirms that all reasonably foreseeable operations and maintenance activities have been included within the Outline offshore operations and maintenance plan (APP-079) to allow these activities to be fully assessed within the Morgan Generation Assets application. The final operations and maintenance plan will reflect the final design of the Morgan Generation Assets and therefore the activities set out within the final plan will fall within the project design envelope assessed within the application. The Applicant reiterates that operations and maintenance activities have been fully assessed within the application. The Applicant considers that this matter is closed.

Reference	Natural England Submission	Applicant's response
	Update at Deadline 3 No change	
REP3-049.86	**G14** All reasonably predictable activities should be assessed within the ES at the pre-consent stage, and sufficient data should be gathered to avoid the need for further licences unless something unpredictable occurs. In relation to unpredictable works, we advise that the Applicant seeks to understand what may have been required on other offshore wind projects to date to inform their predictions at the pre-consent stage. We also advise including a definition of what constitutes emergency work. **Update at Deadline 2** Natural England notes that the Applicant will include the MMO's definition of emergency in the final Offshore Operations and Maintenance Plan. The Applicant also outlined that their screening exercise for the OOMP identified 'typical' operations and maintenance activities. However, our comment referred to understanding non-typical/ unpredictable activities that have occurred at other wind farms. This R&I remains unresolved and advise it is an issue for pre-consent. **Update at Deadline 3** No change	The Applicant confirms that all reasonably foreseeable operations and maintenance activities have been included within the Outline offshore operations and maintenance plan (APP-079) which is secured under Schedules 3 and 4, Condition 13(3) of the dMLs within the draft DCO (S_D4_8), and that these activities have been fully assessed within the application. The Applicant also confirmed in REP3-004 that the project design envelope for operations and maintenance activities has been informed by industry experience of the Applicant on other offshore wind assets. The Applicant considers that this matter is closed.
REP3-049.87	**G16** We advise that deployment of scour/cable protection under the DCO should be no later than 10 years post construction. Permission for any further cable protection works after that time should be sought through a new Marine Licence. **Update at Deadline 2** No change **Update at Deadline 3** No change	As set out in its response to ExAQ1 DCO 1.17 (REP3-006), the Applicant does not consider there to be any reasonable basis on which to impose a time-limit on the activities authorised by the deemed marine licences in the manner suggested by Natural England. The Applicant has included all reasonably predictable operations and maintenance activities within the Morgan Generation Assets application and undertaken a robust and precautionary assessment of the potential impacts of those within the Environmental Statement. The Applicant has now updated the dMLs within the draft DCO to include maximum cable protection areas and volumes that could be deployed across the lifetime of the project. That is what the Applicant has applied for and what has been assessed in the Environmental Statement. The Applicant notes that Natural England has not explained or justified its position.

Reference	Natural England Submission	Applicant's response
REP3-049.88	**G17** Where seabed disturbance is necessary and use of equipment such as jack-up vessels are required, the Applicant should provide details showing how they will ensure the avoidance of sensitive features such as Habitats of Principal Importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act and Annex I features. Consideration needs to be given to ongoing data collection required to inform micro-siting of activities during the lifetime of the project, and further details provided during the consenting phase. **Update at Deadline 2** No change **Update at Deadline 3** No Change: Whilst the Applicant's characterisation survey did not identify any Habitats of Principal Importance or Annex I habitats within the survey area, we highlight that some habitats such as sabellaria spp. and mytilus edulis are ephemeral. Therefore, just because they weren't identified in the Applicant's survey does not rule out the possibility of those habitats being present at a later date or being present in pre-construction surveys. We strongly advise that the Applicant should include a commitment to micro-site around sensitive habitats such as Habitats of Principal Importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 where possible. This should be secured in the DCO/ dML or provided in the schedule of mitigation. We highlight that this is standard mitigation and has been included on all recent offshore wind farm consents. Please see East Anglia One North and East Anglia two for recent examples.	The Applicant provided a full response to this comment when it was raised as part of Natural England's relevant representation (see Applicant's Response to Relevant Representations [PD1-017]) and in the Applicant's Deadline 3 response to Natural England's Deadline 2 Written Submission (REP3-004, REP2-033.6). The Applicant would also highlight that the dMLs have been updated at Deadline 4 (S_D4_8) to reflect the commitment to micrositing to avoid Annex I reef (see Schedule 2, condition 20(1)(a); Schedule 4, condition 20(1)(a)). The Applicant considers that its response addresses Natural England's comments.
REP3-049.89	**G19** We note that there is currently no information on how the impacts of O&M works will be monitored. We advise that the Applicant considers this further in an updated plan. **Update at Deadline 2** No change **Update at Deadline 3** In progress: NE notes that the updated IPMP considers how various O&M	Please see the Applicant's response to REP3-047.4 above.

Reference	Natural England Submission	Applicant's response
	activities will be logged there is no consideration of monitoring said activities from an environmental perspective or any safe guards to stop unforeseen impacts occurring.	

2.3 Natural Resources Wales

Table 2.3: REP3-050 – Natural Resources Wales

Reference	Natural Resources Wales submission	Applicant's response
REP3-050.1	Thank you for your Rule 8 letter, dated 12 September 2024, requesting Cyfoeth Naturiol Cymru / Natural Resources Wales' (NRW) comments regarding the above. Please find below NRW's Deadline 3 submissions which comprises advice on the submissions produced by the Applicant and received at Deadlines 1 on 3 October and 2 on 23 October 2024. For ease of review, where our advice below refers to the Applicant's main response [REP2-005] to NRW's Deadline 1 Written Representations [REP1-056], each paragraph is preceded with the corresponding reference number extracted from REP2-005 e.g. REP2-005; para REP1-056.1. These representations and attachments should be read in conjunction with advice previously provided into the examination. NRW continues to engage extensively and proactively with the Applicant throughout the examination in order to resolve outstanding matters. The comments provided in this submission, comprise NRW's response as a Statutory Party under the Planning Act 2008 and Infrastructure Planning (Interested Parties) Regulations 2015 and as an 'Interested Party' under s102(1) of the Planning Act 2008. Our comments are made without prejudice to any further comments we may wish to make in relation to this application and examination whether in relation to the Environmental Statement (ES) and associated documents, provisions of the draft Development Consent Order ('DCO') and its Requirements, or other	The Applicant notes NRW's comments and has responded to each comment below.

Reference	Natural Resources Wales submission	Applicant's response
	evidence and documents provided by bpENBW ('the Applicant'), the Examining Authority or other Interested Parties. With respect to the advice contained within this document relating to nature conservation within Welsh inshore waters, reference to Welsh Offshore waters and English Onshore / Offshore waters may be made in view of mobile species, Zones of Influence and potential cross-border and cumulative / in-combination impacts on the Welsh inshore marine area and protected sites. Where potential impacts are wholly within Welsh offshore waters or English Onshore / Offshore waters, NRW defer to comments provided by the Joint Nature Conservation Committee (JNCC) and Natural England (NE) respectively. 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).).	
REP3-050.2	**1.1 Marine Ornithology** NRW welcome the work the Applicant has done on updates to the assessments in light of our comments at Relevant and Written Representations [RR-027, REP1-056]. However, these updates (e.g. to apportioning, displacement assessments etc) have each been done in isolation but they have not been transposed through to an overall updated assessment. Whilst these updates may not alter the Applicant's overall conclusions on levels of impact significance, they do alter the overall predicted impact numbers. We also note that whilst the Applicant has carried out multiple quantifications of impacts based on different approaches and parameters (i.e. the Applicant's preferred approach and the Statutory Nature Conservation Bodies [SNCBs] advised approach), full matrices have been provided only in some instances. For example, results from the Cumulative Effects Assessment and in-combination gap filling note [REP1-	The Applicant confirms that the work undertaken in the various clarification notes provided to the Examination does not alter the Applicant's conclusions. Throughout the documents submitted into the Examination, the Applicant has been clear that these represent sensitivity analyses undertaken to check that the conclusions reached in the application remain valid. The Applicant considers that updated assessments are not required as there are no material changes to the assessments undertaken in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). If a future project were to utilise the values presented in the application or those incorporated into the sensitivity analyses presented in the clarification notes submitted into the Examination, it would not change the outcome of the cumulative or in-combination assessments undertaken. The application documents and clarification notes submitted contain all the information that would be required for future projects to incorporate the Morgan Generation Assets into cumulative or in-combination assessments and, if necessary, future projects can seek the advice of the relevant SNCB to determine which value to utilise in their cumulative and in-combination assessments. It is for future projects to populate cumulative and in-combination assessments with numbers for projects other than the Morgan Generation Assets. Whilst it would appear sensible for projects to simply copy cumulative or in-combination totals from previous assessments, this is not advisable as there may be reasons, such as updates to the evidence base in relation to collision risk modelling

Reference	Natural Resources Wales submission	Applicant's response
	010] have not been propagated through into the Applicant's updated assessments. Therefore, we stress the difficulty in following what impact estimates the Applicant intends on using in the Application and which documents they are located in. This will be essential for future projects to access in order to populate their cumulative and in-combination assessments. We therefore request that, once SNCB methodological concerns have been addressed, that the Applicant submits a 'final position' summary document into Examination that details or tabulates the impact estimates according to the SNCB advised approach and that of the Applicant. While this may not change overall conclusions without combining into updated assessments, it is hard to draw conclusions as the assessment protocol used by the Applicant doesn't currently follow NRW advice provided. With regard to presenting assessments following SNCB advised approaches in applications, we recommend that the Applicant considers the recent letters from PINS to the Mona and Outer Dowsing Applicants, which request that the Applicants present assessments following NE/NRW/JNCC (and others) advocated approaches as well as their own into the examination - see: • Mona request: Rule 17 letter - ExA request for further information • Outer Dowsing request: EN010130-000725-20240703 Rule 17 Request for further Information.pdf (planninginspectorate.gov.uk) Whilst we consider it likely that the predicted impacts from the Morgan Generation Assets project alone to Welsh designated sites are likely to be small and result in no adverse effects, based on the points raised above, we consider it premature at this stage to reach definitive conclusions on the levels of significance of predicted impacts to Welsh designated sites both from the project alone and in-combination.	parameters or approaches to apportioning, for example, that may mean re-calculations of certain values are necessary. This would not be possible using cumulative and in-combination totals presented in application documentation and therefore future projects should be collating data for all projects incorporated into their cumulative and in-combination assessments in much greater detail than can be obtained from the cumulative and in-combination assessments presented in the application documents for any previous project. The Applicant has presented an assessment incorporating the SNCB position in Volume 2, Chapter 5: Offshore ornithology (APP-023) (for all impacts), HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) (for collision) and following the precedent set by the Secretary of State in relation to displacement impacts in the Displacement Rates Clarification Note (REP1-011). The Applicant has presented all the information required to enable SNCBs or future projects to calculate impacts using their preferred parameters within the documents submitted at application and during the Examination. For example, seasonal displacement matrices presenting a complete range of displacement and mortality rates are provided in Volume 4, Annex 5.2: Offshore ornithology displacement technical report (APP-054) with apportioning values for all SPA and non-SPA colonies presented in Volume 4, Annex 5.5: Offshore ornithology apportioning technical report (APP-057). A few simple calculations using the values in these documents would enable the calculation of apportioned totals for the breeding colony under consideration with the same possible for collision risk impacts based on the values presented in Volume 4, Annex 5.3: Offshore ornithology collision risk modelling technical report (APP-055). The Applicant therefore considers that the information requested by the Planning Inspectorate as part of the Mona Offshore Wind Project and Outer Dowsing Offshore Wind applications is already included in the application and the provision of additional information is not required. The Applicant and NRW held a meeting on 28 November 2024 during which the solution identified between the Applicant and Natural England on 13 November 2024 was discussed. It is considered that this solution will resolve all outstanding methodological issues associated with the assessments presented in in Volume 2, Chapter 5: Offshore ornithology (APP-023), HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) with the Applicant also proposing to submit an additional clarification note concerning the Pen y Gogarth/Great Orme's Head SSSI at Deadline 4 (S_D4_19: Project alone and cumulative assessment for the Great Orme's Head SSSI F01).

Reference	Natural Resources Wales submission	Applicant's response
	With regard to in-combination assessments, we note that once the updated assessments covering the full range of SNCB advised rates have been completed, then if any potential project alone impact (including at the upper end of the advised ranges) equates to more than 0.05% of baseline mortality then this site and species combination should be taken through to a full in-combination assessment, which should take into account the issues with gaps in data for historic projects. Further comments on documents submitted at Deadline 2 can be found below.	
REP3-050.3	**1.1.1 Comments on REP2-005 – Applicant's Response to NRW Written Representations** REP1-056.11 1. NRW considers that the confidence intervals associated with collision estimates (including those for the Statutory Nature Conservation Body (SNCB) advised input parameters) should also be provided and taken through the assessment to assess the full range of potential effects, or at least be utilised in the approach to screening sites for Likely Significant Effect (LSE). To ensure transparency and as examples of best practice, all code, input/output parameters, and the full ranges of Applicant and SNCB values should be made available in an appendix or on request.	The Applicant does not agree with the approach recommended by NRW in relation to the use of confidence intervals. Confidence intervals serve to describe the variation around a mean value, rather than providing an additional scenario which requires assessment. Confidence intervals associated with all collision risk estimates, including those representing the SNCB's position, are provided in Volume 4, Annex 5.3: Offshore ornithology collision risk modelling technical report (APP-055). The Applicant has previously commented on this response (RR-026.B.57 and RR-027.9 in PD1-017 and REP1-056.11 and REP1-056.13 in REP2-005). The Applicant refers NRW to Natural England's confirmation that such comments can now be closed in Natural England's Deadline 3 submission (REP3-048.52). The Applicant and NRW held a meeting on 28 November 2024 during which the solution identified between the Applicant and Natural England on 13 November 2024 was discussed. It is considered that this solution will resolve all outstanding methodological issues associated with the assessments presented in in Volume 2, Chapter 5: Offshore ornithology (APP-023), HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).
REP3-050.4	REP1-056.11 to REP1-056.12 2. NRW notes that there is unlikely to be a significant difference on conclusions of collision risk in the particular case of the Morgan Generation Project between using the Applicant's approach and the SNCB advised approach. This might not be the case for other projects and is mainly due to the predicted magnitude of impacts being small and as such, low risk.	The Applicant notes NRW's comments and agrees that the predicted impacts associated with the Morgan Generation Assets are small and therefore low risk.

Reference	Natural Resources Wales submission	Applicant's response
REP3-050.5	REP1-056.13 to REP1-056.14 3. Whilst we acknowledge the Applicant's position regarding flight speeds, NRW maintain our position as set out in our Written Representations (WRs) [REP1-056]. It is noted that the flight speeds advised by NRW are as advised for use in the recently published joint SNCB Collision Risk Modelling (CRM) advice note. However, we note the Applicant has considered both our advised flight speeds and their preferred flight speeds in assessments. We reiterate that we will base our conclusions on levels of significance to Welsh sites using the predicted impacts based on our advised input parameters (including flight speeds and avoidance rates). 4. NRW continues to advise that the apportioned predicted impacts calculated using SNCB parameters are made clear in the Habitats Regulations Assessment (HRA) Stage 1 Screening and HRA Stage 2 ISAA where sites are taken forward to this stage. It is possible that this may not materially change the conclusions but without seeing this information we are unable to confirm our agreement with the conclusions. We recommend that the tables of apportioned impacts for each designated site/feature considered has separate columns presenting the apportioned collision impacts for the SNCB advised input parameters and one for the Applicant's preferred parameters. This will also be useful for future projects to understand the figures for the Morgan Generation Project in future in-combination assessments.	The Applicant has previously responded on this point (please see the Applicant's response to RR-026.B.64, RR-027.11, RR-035.25 and RR-035.26 in PD1-017 and REP1-056.13 in Applicant's Response to Relevant Representations (PD2-017). The Applicant confirms that the assessments in relation to collision risk have incorporated both the Applicant's and NRW's positions, with these positions invariably reflecting the lowest and highest values provided in the assessments, respectively.
REP3-050.6	REP1-056.15 to REP1-056.16 5. NRW maintains our position on avoidance rates as set out in our WRs [REP1-056]. However, we continue to note that the Applicant has considered both our advised species-group avoidance rates and their preferred species-specific avoidance rates in assessments. It is noted that the use of species-group	The Applicant has previously responded on this point (please see the Applicant's response to RR-026.B.65 and RR-027.12 in PD1-017 and REP1-056.15 in REP2-005). The Applicant confirms that the assessments in relation to collision risk have incorporated both the Applicant's and NRW's positions, with these positions invariably reflecting the lowest and highest values provided in the assessments, respectively.

Reference	Natural Resources Wales submission	Applicant's response
	avoidance rates is advised in the recently published joint SNCB CRM advice note. We reiterate that we will base our conclusions on levels of significance to Welsh sites using the predicted impacts based on our advised input parameters (including flight speeds and avoidance rates). 6. NRW continues to advise that the apportioned predicted impacts calculated using SNCB parameters are made clear in the Habitats Regulations Assessment (HRA) Stage 1 Screening and HRA Stage 2 ISAA where sites are taken forward to this stage. Please see paragraph 4 above.	
REP3-050.7	REP1-056.17 7. Please see our comments below regarding this aspect in section REP1-013, paragraph 50.	The Applicant notes NRW's comments and has responded to each comment below.
REP3-050.8	REP1-056.18 to REP1-056.19 8. Please see our comments below regarding this aspect in section REP1-010, paragraph 35.	The Applicant notes NRW's comments and has responded to each comment below.
REP3-050.9	REP1-056.20 9. Please see our comments below regarding this aspect in section REP1-010. However, we note the Applicant has stated 'The Applicant notes that there are reasons why cumulative and in-combination numbers may differ in the assessments presented by different projects including, but not limited to, the application of surrogate apportioning values, seasonal definitions etc.'. Our understanding is that advice provided by NRW regarding the assessment methods is aligned with Natural England (NE) as this advice has been provided for both Mona and Morgan Generation Projects, through the joint Expert Working Groups and through the Relevant Representations submitted by both SNCBs. 10. Therefore, if the advice provided to both projects is followed then it is unclear how there could be differences occurring as the Applicant suggests.	Whilst the advice provided in relation to the prediction of impacts for the Mona Offshore Wind Project and Morgan Generation Assets alone may have been consistent, this advice does not extend to the cumulative and in-combination assessments. For example, no advice was provided in relation to how to obtain information from previous projects. As NRW are aware through their request for final positions for the Morgan Generation Assets to be submitted, the documentation submitted in support of an offshore wind farm development application is invariably voluminous. When this is combined with the different approaches taken to the assessment of key impacts over the last 20 years, it is unsurprising that different projects will calculate differing cumulative and in-combination totals. These differing totals are not incorrect, rather they reflect the expert judgement of the relevant project in relation to the methodology to apply to obtain values for different projects. For example, some older projects will not have assessed displacement impacts in a quantified manner and therefore monthly population estimates will be required to calculate mean-peak population estimates for use in displacement analyses. However, the survey designs applied for older projects were different, meaning few have the temporal survey coverage that would now be required for newer projects. In addition, data may not be presented at the spatial resolution now required to conduct displacement analyses meaning data may need to be corrected with multiple methodologies available to conduct these corrections. In many cases, documentation for older

Reference	Natural Resources Wales submission	Applicant's response
	Considering Mona Generation, Morgan Generation and Morecambe Generation projects are all in examination at the same time and are all located in the Irish Sea, that they should all be including the same list of other projects in the cumulative/in-combination assessments, and the total predicted cumulative/in-combination impacts assessed for each species/population should be the same across the three projects. Therefore, we recommend the three projects take a collaborative approach to ensure their assessments are consistent.	projects is no longer publicly available making quantification for these projects impossible unless this documentation had previously been obtained and retained. When this is propagated through to in-combination assessments, additional considerations arise, for example, how to account for the absence of apportioning values in the documentation for older projects. SNCB advice does not extend to these intricacies of cumulative and in-combination assessments, and it should not be expected to, as it is unlikely to address all of the necessary issues that may arise when collating the information required for cumulative and in-combination assessments.
REP3-050.10	REP1-056.21 11. NRW welcomes the information provided by the Applicant regarding how collision figures were recalculated for other projects using the new advised avoidance rates. We are satisfied with the Applicant's approach and now consider this issue closed.	The Applicant welcomes this response and that the matter is now resolved.
REP3-050.11	REP1-056.22 12. NRW welcomes the Applicant's intention to include consideration of the comments raised in our WRs [REP1-056] regarding the Awel y Môr large gull figures (Option 3 vs Option 2) in the cumulative/in combination assessments in the sensitivity review of the cumulative and incombination assessments they intend to submit at Deadline 3. Therefore, NRW will provide further comment/advice into the examination once this information has been submitted at Deadline 3..	The Applicant has undertaken this work and it was submitted at Deadline 3 (REP3-018). The clarification note concluded that the use of collision risk estimates calculated using Option 2 would make no material difference to the assessments conducted for herring gull. The Applicant awaits NRW's response.
REP3-050.12	REP1-056.23 13. NRW acknowledges that the Applicant is undertaking a sensitivity review of the cumulative and in-combination assessments in the application to account for recently submitted projects. It is our understanding that this will also include consideration of the updates to the Morgan Generation Project impact assessment figures from the PEIR figures to those following the submission application documents for this project. Therefore, NRW will provide further	The Applicant has undertaken this work and it was submitted at Deadline 3 (REP3-019). The note included consideration of impact estimates submitted as part of the Morecambe Offshore Windfarms: Generation Assets application and the conclusions reached in the assessments for projects in Irish and Welsh waters that have also submitted applications since the submission of the Morgan Generation Assets application. In all cases, the overarching conclusions reached were consistent with those in the Morgan Generation Assets application (i.e. no significant effects at an EIA level and no adverse effects on designated sites).

Reference	Natural Resources Wales submission	Applicant's response
	comment/advice into the examination once this information has been submitted at Deadline 3.	
REP3-050.13	REP1-056.24 14. NRW notes and welcomes the Applicant's response.	The Applicant notes NRW's comments with thanks.
REP3-050.14	REP1-056.25 15. NRW notes the Applicant's response and has no further Comment.	The Applicant notes NRW's comments with thanks.
REP3-050.15	REP1-056.26 16. The Applicant 'welcomes that and agrees with NRW's conclusion that it is likely that an adverse effect on integrity from operation and maintenance vessel movements can be ruled out for the red-throated diver and common scoter features of the Liverpool Bay SPA based on the measures adopted as part of the Morgan Generation Assets'. However, as noted by the Applicant in their HRA Stage 1 Screening Report [APP-099] 'Screening (for which this HRA Stage 1 Screening Report applies) – the first stage involves a screening for LSE which is a simple assessment to check or screen if, in the absence of mitigation….Appropriate Assessment – the second stage is an Appropriate Assessment, which must be carried out if it is decided that there is a risk of a LSE on a European site or if there is not enough evidence to rule out a risk (as required by Article 6(3) of the Habitats Directive). The Appropriate Assessment should assess the LSEs of a proposal on the integrity of the site and its conservation objectives and consider ways to avoid or reduce (mitigate) any potential for an 'Adverse Effect on the Integrity of the site''. Therefore, NRW remain concerned that the HRA Stage 1 Screening Report does not consider the potential for disturbance and displacement impacts from vessel movements in the construction or operation and maintenance phase on the red-throated diver and common scoter features of Liverpool Bay SPA. Until it can be confirmed that vessel movements will not pass	The Applicant has submitted the relevant documentation (REP2-018). It is therefore considered that this issue is closed and that a conclusion of no adverse effect on the integrity of the Liverpool Bay SPA can be agreed with both NRW and Natural England.

Reference	Natural Resources Wales submission	Applicant's response
	through the SPA in the wintering period, LSE cannot be ruled out for these features. Natural England (NE) also advise that red-throated diver and common scoter at Liverpool Bay SPA should be assessed in the HRA Stage 2 ISAA Part 3 Report. The Applicant should not rely on the mitigation measures they propose as justification for ruling out LSE for these features of this site. The mitigation should be considered as part of the Appropriate Assessment. 17.NRW continue to note the measures listed in Table 5.26 of the submitted Environmental Management Plan (EMP) [APP-023] that will include measures to minimise disturbance to rafting birds from transiting vessels [APP-070] and include a Marine Pollution Contingency Plan (MPCP). It is noted and welcomed that the offshore EMP is secured within the deemed marine licence (dML) in Schedule 3 Part 2 of the draft Development Consent Order (DCO) [APP-005]. Therefore, based on the adoption of best practice vessel operations to minimise disturbance we would consider it is likely that an Adverse Effect on Site Integrity from operation and maintenance vessel movements can be ruled out for these features of the SPA. However, considering the location of Morgan Generation Project in English waters, we would recommend that the advice of NE is sought regarding this.	
REP3-050.16	REP1-056.27 18. No further comment.	The Applicant notes NRW's comments with thanks.
REP3-050.17	REP1-056.28 to REP1-056.30 19. NRW disagrees that the Applicant's response addresses our initial concerns. Therefore, we reiterate that the SNCBs do not support the Applicant's methodology which was developed by Hornsea Project 2 to undertake kittiwake age apportioning. We continue to advise that the Applicant use the 84.11% of adults recorded in the Morgan site-specific DAS data to	The Applicant has submitted a clarification note addressing this issue at Deadline 3 (Kittiwake apportioning clarification note (REP3-020)) and awaits NRW's response. The clarification note concludes that the exclusion of older immatures from the apportioning value applied in the breeding season makes no material difference to the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Reference	Natural Resources Wales submission	Applicant's response
	undertake kittiwake age apportioning and submit this into examination. 20.NRW does welcome that in Section 1.3.3 [REP1-013] the Applicant has not applied the Hornsea 2 approach to kittiwake age-class apportioning and has instead taken the most precautionary approach of assuming all birds are adults. NRW recommend the Applicant also considers revising the use of the Hornsea 2 age-class apportionment approach for all the other assessed designated sites (i.e. SPAs) for kittiwake.	
REP3-050.18	REP1-056.31 to REP1-056.33 21. No further comment and NRW consider this issue resolved	The Applicant notes the resolution of this issue.
REP3-050.19	REP1-056.34 22. The apportioned collision figures presented throughout the HRA Stage 2 information cover a range of predicted impacts based on a range of input parameters (using species-specific and species group avoidance rates and various flight speeds including those advised by SNCBs and those from ORJIP, Skov et al. 2018). Whilst it is understood that the impacts resulting from the SNCB advised input parameters are included within this range, it is noted that the way the apportioned collision figures are presented (i.e. just as a range of figures), means it is not clear which predicted mortalities relate to which set of input parameters. NRW reiterates that as we will base our advice on the predicted impacts as per the SNCB recommended input parameters (including flight speeds and species group avoidance rates). Furthermore, NRW advise that the apportioned predicted impacts calculated using SNCB parameters are made clear in the HRA Stage 1 Screening and HRA Stage 2 ISAA where sites are taken forward to this stage. 23.Whilst this may not materially change the conclusions, without this information NRW are unable to	The collision risk estimates calculated when applying those parameters recommended by the SNCBs are the highest of the values presented in Volume 4, Annex 5.3: Offshore ornithology collision risk modelling technical report (APP-055) and in the ranges presented in subsequent assessments. The values requested by NRW are therefore already explicitly presented throughout the assessments in Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). Whilst the Applicant will continue to advocate the use of those parameters identified in Volume 4, Annex 5.3: Offshore ornithology collision risk modelling technical report (APP-055) to calculate collision risk estimates that are indicative of the risk to birds from collision, the use of a range is considered appropriate to capture the inherent uncertainty associated with all parameters.

Reference	Natural Resources Wales submission	Applicant's response
	confirm agreement. Therefore, NRW recommends that the tables of apportioned impacts for each designated site/feature considered has separate columns presenting the apportioned collision impacts for the SNCB advised input parameters and one for the Applicant's preferred parameters. This will also be useful for future projects to understand the figures for the Morgan Generation Project in future in-combination assessments.	
REP3-050.20	REP1-056.34 24. NRW maintains our advice regarding a range-based approach to displacement assessments, as per our advice provided in WRs [REP1-056]. Whilst welcoming the further displacement analyses incorporating additional displacement and mortality rates provided by the Applicant in REP1-011, it is noted that the Applicant has not provided apportioned impacts across the full range of rates as advised by the SNCBs (further details can be found below under section 1.1.3 REP1-011). 25.As mentioned above, when presenting assessments following SNCB advised approaches in applications, it is recommended that the Applicant considers the recent letters from PINS to the Mona and Outer Dowsing Applicants (see summary comments above).	The Applicant has provided a response to this point previously (please see the Applicant's responses to RR-026.B.74, RR-026.B.90 and RR-027.33 in PD1-017 and REP1-011). The Applicant has presented full displacement matrices at an EIA level (i.e. unapportioned to SPA/Ramsar populations) in Volume 4, Annex 5.2: Offshore ornithology displacement technical report (APP-054). The only Welsh SPAs for which LSE was identified for a species considered in relation to displacement impacts were: • Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA (Manx shearwater) • Skomer, Skokholm and the Seas off Pembrokeshire SPA (guillemot, razorbill and Manx shearwater) • Grassholm SPA (gannet). The Applicant has presented full apportioned displacement matrices for Manx shearwater at the Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA, guillemot (project alone and cumulative), razorbill (project alone) and Manx shearwater (project alone) at the Skomer, Skokholm and the Seas off Pembrokeshire SPA in REP1-011. The Applicant and NRW held a meeting on 28 November 2024 during which the solution identified between the Applicant and Natural England on 13 November 2024 was discussed. It is considered that this solution will resolve all outstanding methodological issues associated with the assessments presented in in Volume 2, Chapter 5: Offshore ornithology (APP-023), HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).
REP3-050.21	REP1-056.45 26. Please see responses to REP1-056.34 to REP1-056.44 above. NRW reiterates the advice provided in the WRs [REP1-056] that we are not advising that the HRA be based solely on the upper end of the % displacement and % mortality rates advised, but NRW	The Applicant has provided a response to this point previously (please see the Applicant's responses to RR-026.B.74, RR-026.B.90 and RR-027.33 in PD1-017 and REP1-011). Please also see the Applicant's response to REP3-050.20 in this document.

Reference	Natural Resources Wales submission	Applicant's response
	does advise that in order to account for the large degree of uncertainty regarding displacement rates and effects, that the assessment consider a range of potential rates and effects rather than focussing on a single figure.	
REP3-050.22	REP1-056.46 27. Please see our comments below (section 1.1.3, REP1-011).	The Applicant notes NRW's comments and has responded to each comment below.
REP3-050.23	REP1-056.47 28. The Applicant notes that collision risk estimates calculated using SNCB advised parameters are assessed throughout HRA Stage 2 [APP-098]. It is understood that the apportioned collision figures presented throughout the HRA Stage 2 information cover a range of predicted impacts based on a range of input parameters (using species-specific and species group avoidance rates and various flight speeds including those advised by SNCBs and those from ORJIP, Skov et al. 2018). Whilst NRW is aware that the impacts resulting from the SNCB advised input parameters are included within this range, it should be noted that as presented (i.e. range of figures) the apportioned collision figures are not clear which predicted mortalities relate to which set of input parameters. As mentioned above, as NRW will base our advice on the predicted impacts as per the SNCB recommended input parameters (including flight speeds and species group avoidance rates), the apportioned predicted impacts calculated using SNCB parameters should be clearly displayed in the HRA Stage 1 Screening and HRA Stage 2 ISAA where sites are taken forward to this stage. 29.Whilst this may not materially change the conclusions, without this information NRW are unable to confirm agreement. Therefore, NRW recommends that the tables of apportioned impacts for each designated site/feature considered has separate columns presenting the apportioned collision impacts for the	Please see response to REP3-050.19.

Reference	Natural Resources Wales submission	Applicant's response
	SNCB advised input parameters and one for the Applicant's preferred parameters. This will also be useful for future projects to understand the figures for the Morgan Generation Project in future in-combination assessments.	
REP3-050.24	REP1-056.48 30. No further comment and NRW consider this issue resolved.	The Applicant notes and welcomes the resolution of this issue.
REP3-050.25	REP1-056.49 to REP1-056.50 31. NRW apologise for the incorrect document and paragraph referencing in the WRs [REP1-056]. Our comment relates to the presentation of results in the HRA Stage 2 ISAA Part 3 [APP-098] and that in the tables of apportioned impacts presented for species where collision and displacement have both been considered in assessments (i.e. gannet and kittiwake) do not present apportioned impacts from collision and displacement separately, but the combined impact of the two in Tables 1.24 and 1.25 [APP-098]. We continue to advise that the apportioned impacts should be presented separately as well as combined, especially as NRW and NE do not advise kittiwake are assessed for displacement.	The Applicant has provided a response to this point previously, please see the Applicant's response to REP1-056.49 in REP2-005.
REP3-050.26	REP1-056.51 32. NRW maintain our advice regarding the ranges of % displacement and % mortality for assessments of displacement for gannet. In REP1-011 it is noted that the Applicant has not provided apportioned HRA assessments for the project alone covering the full ranges of SNCB advised % displacement and % mortality rates [REP1-011]. Therefore, we continue to advise that predicted impacts across the full range of advised rates should be presented, and where the	The Applicant has provided a response to this point previously (please see the Applicant's responses to RR-026.B.74, RR-026.B.90 and RR-027.33 in PD1-017 and REP1-011). Please also see the Applicant's response to REP3-050.20 in this document.

Reference	Natural Resources Wales submission	Applicant's response
	predicted impact from the project alone exceeds 0.05% of baseline mortality at any point within the advised range then the site and feature combination should be taken through to in-combination assessment. It is also recommended that in any updated assessments that cover a full range of SNCB advised rates, the Applicant should also include in these assessments all the other aspects of the assessments that they have considered in isolation thus far.	
REP3-050.27	REP1-056.53 to REP1-056.54 33. NRW has no further comments on these aspects.	The Applicant notes NRW's comments with thanks.
REP3-050.28	REP1-056.55 34. As noted above (REP1-056.52), NRW maintain our advice that where the predicted impact from the project alone exceeds 0.05% of baseline mortality at any point within the advised range then the site and feature combination should be taken through to in-combination assessment. It is also noted that these in-combination assessments should include impacts from the projects that have been gap-filled [REP1-010].	The Applicant can confirm that where the impact from the project alone exceeds a 0.05% increase in the baseline mortality of the relevant population, then consideration has been given to in-combination impacts. The sensitivity analyses undertaken in Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note (REP1-010) identifies that even if impacts associated with gap-fill projects are included in cumulative and in-combination assessments, this would not materially change the conclusions of the assessments presented in the application.
REP3-050.29	REP1-010 **1.1.2 Comments on REP1-010 – Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note** 35.NRW welcomes the gap filling for historical projects that have been undertaken by the Applicant. NRW broadly considers that the approach taken by the Applicant provides the information requested by the SNCBs and consider that the approach of using Marine Ecosystems Research Programme (MERP) data rather than a proxy approach represents a more repeatable and defensible approach. NRW also welcomes the Applicant considering the advice provided by the	The Applicant welcomes agreement of the approach applied in Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note (REP1-010). Whilst cumulative and in-combination totals increase when impacts associated with the gap-fill projects are included, Annex 4.5 to Response to Hearing Action Point 15: Offshore Ornithology CEA and In-combination Gap-filling of Historical Projects Note (REP1-010) concludes that this makes no material difference to the conclusions of the assessments undertaken in both Volume 2, Chapter 5: Offshore ornithology (APP-023) and HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Reference	Natural Resources Wales submission	Applicant's response
	SNCBs during the meeting held with the Applicant on the 29th August regarding: • Undertaking a comparison of proportions of birds in flight from more coastal projects with data (such as Awel y Môr), with the combined data from the Round 4 Irish Sea Projects; and • Including a seasonal and monthly breakdown of the proportions of flying birds within the Round 4 Irish Sea projects digital aerial survey data. 36.We note 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 Environmental Statement (ES), taking account of any updated assessments provided throughout the examination process. Additionally, NRW advise the use of the species-group avoidance rates. Therefore, any advice provided by NRW will be based on the outputs 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. 37.We note that the results presented for the gap-fill analysis in REP1-010 do suggest that some of the historic projects contribute to the cumulative effects. The lesser black-backed gull indicative cumulative collision total as presented is now approaching 1% of baseline mortality of the largest Biologically Defined Minimum Population Scales (BDMPS) (0.99% of baseline mortality). It should be noted that as further projects that could contribute to the cumulative and incombination collision totals have been identified by the Applicant in REP2-023, and hence there is the potential for this cumulative collision indicative impact to increase further following the work to be submitted by the Applicant at Deadline 3. It should also be noted that the herring gull indicative cumulative collision figure for the species-group avoidance rate and including consented	

Reference	Natural Resources Wales submission	Applicant's response
	wind farm parameters when gap filling has been undertaken has approximately doubled from that presented for without the gap filling in the ES Chapter [APP-023] compared to that following the gap filling exercise presented in REP1-010. This reinforces the need for the gap-fill analysis to have been carried out and we maintain our position that this quantification was necessary. 38.In the 'Review of Cumulative Effects Assessment (CEA) and In-Combination Assessment' [REP2-023], the Applicant has identified several additional projects that have the potential to contribute to cumulative and in-combination collision and/or displacement offshore ornithology impacts that now have data available and that were not included in the CEA, including that presented in REP1-010. These are: The Arklow Bank 2, Codling Wind Park, Hynet, Llŷr, North Irish Sea Array and Oriel projects. Additionally, updated figures for the Morecambe Generation Assets project are now available following the submission of the application for this project. It is noted that the figures included by Morgan Generation Assets project in the CEA have not yet been updated to account for the submission figures in REP1-010. The Applicant has noted in REP2-023 that additional work is required to understand the potential cumulative and in-combination effects of these projects for collision and displacement and has indicated that this will be undertaken for Deadline 3. Therefore, we expect that cumulative assessments will be further updated by the Applicant at Deadline 3, and we consider it inappropriate to comment on the level of cumulative/in-combination impact significance at this point. We will provide further comment/advice into the examination on this following full review of the documents the Applicant intends to submit at Deadline 3. 39.Given that NRW continues to advise that the Applicant presents apportioned impacts across the full	

Reference	Natural Resources Wales submission	Applicant's response
	ranges of SNCB advised assessment approaches (see comment on REP1-011 below), we advise that where predicted impacts from the project alone exceed 0.05% of baseline mortality for any apportioned impact across the advised assessment ranges, the site/feature combination should be taken through to in-combination assessments. We recommend that in such instances, the results of the gap-filling exercise undertaken in REP1-010 are subsequently used within the in-combination assessments. The gap-filled results provide the most comprehensive estimate of mortalities at each project that were previously not quantified.	
REP3-050.30	REP1-011 **1.1.3 Comments on REP1-011 – Displacement Rates Clarification Note** 40.NRW welcomes the additional information supplied by the Applicant. However, it is noted that the Applicant has chosen not to assess apportioned impacts across the full range of advised SNCB % displacement and % mortality rates. Instead, the Applicant has presented assessments against an additional scenario of the % displacement and % mortality rates incorporated into the Secretary of State's Habitats Regulations Assessment (HRA) as part of the Sheringham Shoal Extension and Dudgeon Extension offshore wind farms and Hornsea Four offshore wind farm decision for guillemot, razorbill – namely 70% displacement and 2% mortality regarding auks. The Applicant has also chosen to consider these rates to be applicable to the other species features combinations assessed for the displacement of Manx shearwater and kittiwake in the Morgan Generation Assets HRA, although there is no precedent setting of these rates having been applied at other project consents. There is little evidence to suggest that these rates are applicable to other species (such as Manx shearwater), given the lack of evidence focussed on quantifying speciesspecific displacement rates. It is noted that the Applicant has reiterated that	The use of a 70% displacement rate and 2% mortality rate represents the precedent set by the Secretary of State in the consent decisions for the most recent offshore wind farm decisions, the Sheringham Shoal Extension and Dudgeon Extension projects and the Hornsea Four project. The use of these rates in the Secretary of State's decision was based on advice provided by Natural England. Please also see the Applicant's response to REP3-050.20 in this document. In relation to cumulative and in-combination totals, please see the Applicant's response to REP3-050.9. In relation to kittiwake apportioning the Applicant's response to this matter is summarised in the Kittiwake apportioning clarification note (REP3-020) submitted at Deadline 3. In HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098), the Applicant used a displacement rate of 70% and mortality rate of 1% for gannet. These rates are identical to those used by the Secretary of State in the consent decisions for the Sheringham Shoal Extension and Dudgeon Extension offshore wind farms and Hornsea Four offshore wind farm. It was therefore not necessary to include gannet in the Displacement Rates Clarification Note (REP1-011) as the assessments would have been the same as presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098).

Reference	Natural Resources Wales submission	Applicant's response
	there is little evidence in turn to support NRW advised rates of 30-70% displacement for Manx shearwater. While a data gap such as this persists, NRW continue to advise that the full matrix of possible values from the SNCB advised, and the Applicant preferred rates be presented explicitly and clearly throughout all assessments. 41.We also welcome the confirmation that the Applicant is actively engaging with the Mona Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets to align cumulative and in-combination assessments where possible. We acknowledge that these projects are being examined separately by different Examining Authorities and that Natural England (NE) is leading the majority of SNCB input in the examinations of Morgan and Morecambe. However, NRW (A) is providing advice into these projects from a mobile species and cumulative impact perspective where there is the potential for the projects to impact Welsh protected sites / features. It should be noted by the Applicant and the ExA that our clear understanding is that the advice provided by NRW (A) regarding the CEA and in-combination assessment methods is aligned with that of NE as the advice has been provided to both the Mona and Morgan generation Applicant's through the joint project EWGs and through the Relevant Representations submitted by both SNCBs for both projects. Therefore, we are uncertain why the Applicant has sought to highlight that there are "different principal SNCBs" for Morgan generation assets to the Mona project and if the Applicant is implying that this should have a potential to result in different cumulative assessments or in-combination assessment for Welsh designated sites. 42.NRW notes the Applicant has also presented full displacement matrices for predicted displacement impacts (Appendix B) for the project alone for the following Welsh designated sites and features:	

Reference	Natural Resources Wales submission	Applicant's response
	• Skomer, Skokholm and seas off Pembrokeshire (SSSP) Special Protection Area (SPA): Manx shearwater, guillemot (named component of assemblage feature) and razorbill (named component of assemblage feature). • Aberdaron Coast and Bardsey Island SPA: Manx shearwater. A full in-combination displacement matrix has also been provided for SSSP SPA guillemot (Appendix D). 43.Therefore, the apportioned rates for the full range of rates NRW advises for sites and features could be extracted. However, as the Applicant has undertaken various updates to assessment approaches (e.g. to apportioning, displacement assessments etc) all in isolation of each other and given these updates have not been transposed through to an overall updated assessment, NRW consider it premature to reach conclusions on impacts from the project alone at present. 44.With regard to Kittiwake and as noted in our Written Representation (WRs) [REP1-056], NRW do not recommend that displacement is assessed for kittiwake as the current evidence base is considered insufficient. Hence, NRW have not provided advice/comment on the displacement aspect of the kittiwake assessment for relevant Welsh designated sites. As raised previously [REP1-056], concerns were identified regarding the appropriateness and applicability of the Applicant's use of the kittiwake adult proportion that was calculated for Hornsea 2. As currently understood, the Applicant has not updated the kittiwake age class apportioning approach used in generating the apportioned adult impacts to relevant designated sites (with kittiwake features presented in REP1-011), including the SSSP SPA. Therefore, NRW maintains concerns regarding this and consider that at present the impacts apportioned for this species may be underestimates. At present, NRW are unable to reach a definitive	

Reference	Natural Resources Wales submission	Applicant's response
	conclusion on the level of significance of predicted impacts to the kittiwake component of the seabird assemblage feature of the SSSP SPA. 45.There is currently no adequate assessment of gannet presented, the Applicant has instead used 50% displacement and 1% mortality rates without providing a matrix of SNCB advised rates to evaluate accordingly. NRW therefore maintains advice and reasoning for the ranges of % displacement and % mortality for gannet displacement assessments (i.e. 60-80% displacement and 1-10% mortality) [REP1-056]. NRW continues to advise that this information is presented by the Applicant, or as a minimum, the full displacement matrices are presented for gannet designated sites (including Grassholm SPA), so that interested parties (IPs) can base their advice on the ranges that they advise. 46.NRW also reiterates that for species that are assessed for both collision and displacement (gannet and kittiwake), the impacts from displacement and collision should be presented separately as well as combined. This also applies for collision impacts where the separate columns are those depending on whether the input parameters have been advised by the SNCB or the Applicant's preferred. This will ensure that the numbers for the different scenarios are explicitly clear.	
REP3-050.31	REP1-012 **1.1.4 Comments on REP1-012 – Response to Hearing Action Point 15: Apportioning Sensitivity Analysis** 47.NRW notes the Applicant has presented a comparison of the breeding season apportioning rates that result from utilising Seabirds Count data against the approach used in the application. It is noted that this is a result of comments received from Natural England (NE). NRW agrees with this approach.	The Applicant has provided a sensitivity analysis of the apportioning rates for the breeding season derived from applying different approaches in REP1-012. The conclusions of that analysis illustrated that the differences between the apportioning rates calculated when applying the different approaches did not alter the conclusions reached in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098). As previously mentioned, it represents best practice for future offshore wind developers to collate as detailed information as possible from previous offshore wind farm applications and not just take single figures without context. It would therefore be expected for future offshore wind farm projects to obtain EIA level impacts (i.e. unapportioned to specific colonies) and seasonal apportioning values for each individual project to ensure that any updates to the evidence base could be applied.

Reference	Natural Resources Wales submission	Applicant's response
	48.Whilst NRW acknowledges that the work presented would be unlikely to alter the Applicant's overall conclusions on levels of impact significance for Welsh designated sites, it is noted that the changes to apportionment rate do alter the overall predicted impact numbers. Therefore, it is recommended that these alterations to the breeding season apportionment rates are taken through to the updated overall assessments of impacts from the project alone. These figures would in turn be clearly available and readily accessible by future offshore wind projects undertaking cumulative/in-combination assessments where the Morgan Generation project will be included. 49.Whilst the analysis presents updated apportionment rates for the SPA colonies, no analysis has been presented for the specific non-SPA colonies assessed quantitively (Great Orme's Head SSSI). This also has not been provided in the Great Orme's Head SSSI clarification note [REP1013].	The Applicant has prepared a further note on the Pen y Gogarth/Great Orme's Head SSSI for submission at Deadline 4 (S_D4_29: Project alone and cumulative assessment for the Great Orne's Head SSSI) which will include the information requested by NRW.
REP3-050.32	REP1-013 **1.1.5 Comments on REP1-013 – Response to Hearing Action Point 15: Great Orme Head SSSI Clarification Note** 50.The Applicant presents the breeding season apportionment rates to the colony in Table 1.1 and also presented in APP-057. However, the colony was not included in the analysis presented (as noted above) and therefore no information has been provided to indicate what changes would result to the Great Orme's Head SSSI breeding season apportionment rates if the Seabirds Count data was used (rather than the Seabird 2000 data). Whilst understanding this analysis may not alter the Applicant's overall conclusions on levels of impact significance for the site, it may alter the overall predicted numbers. NRW would therefore recommend the Applicant includes the updated apportionment approach for the Great Orme's SSSI.	The Applicant has prepared a further note on the Pen y Gogarth/Great Orme's Head SSSI for submission at Deadline 4 (S_D4_19: Project alone and cumulative assessment for the Great Orne's Head SSSI) to address the points made by NRW.

Reference	Natural Resources Wales submission	Applicant's response
	51.NRW welcomes the inclusion on how the non-breeding season apportionment values for the colony have been calculated. Although it is noted that for the proportion of birds from the colony expected to be present in the respective BDMPS area during each relevant season, the Applicant states 'As the Pen y Gogarth / Great Ormes Head SSSI is not explicitly including in Furness (2015) the proportions applied have been taken from the closest colony that is included in Furness (2015)'. The Applicant has not however stated what colony(ies) have been used as the closest colony for each species: NRW recommends further clarification on this. 52.We welcome that assessments have been based on using adult colony sizes and adult survival rates as previously advised by NRW. 53.It is noted that displacement assessments for auks (guillemot and razorbill) only consider apportioned impacts at the Applicant's original preferred rates (50% displacement and 1% mortality and 70% displacement and 2% mortality). Assessments therefore have still not been presented at the full range of SNCB advised rates (30-70% displacement and 1-10% mortality), nor have the full matrices of apportioned impacts to the colony have been made available. Therefore, our advice in our WRs remains [REP1-056]. It is recommended this information is provided by the Applicant, or as a minimum, the full apportioned displacement matrices for the site are provided in order to determine the level of significance of impacts to this colony from the project alone. 54.NRW welcomes that the Hornsea 2 approach has not been applied to kittiwake age-class apportioning, and instead the most precautionary approach has been used assuming all birds are adults (Section 1.3.3). 55.In Table 1.7 it is unclear which of the range of values in column 2 refer to the Applicant's preferred input parameters and which to the SNCB advised ones (i.e.	

Reference	Natural Resources Wales submission	Applicant's response
	avoidance rates and flight speeds) and hence which resultant increase to baseline mortality relates to this combination of parameters. As raised previously, given our advice will be based on the predicted impacts as per the SNCB recommended input parameters (including flight speeds and species group avoidance rates), NRW recommends these are explicitly separated from the Applicant's preferred parameters (such as having separate columns for both). 56.It is also advised that the Applicant considers assessment of cumulative impacts to the SSSI of the Morgan Generation project cumulatively with other plans and projects (given that Awel y Môr, Mona and Morecambe generation assets projects are all located within foraging range of all three features of the Pen y Gogarth / Great Orme's Head SSSI). It is acknowledged that as part of Mona's examination process an updated Great Orme's Head SSSI will be submitted which is expected to include a cumulative assessment. Therefore, it is suggested that as part of this examination process the Applicant considers assessment. It is also recommended that where the predicted impact from the Morgan Generation project alone exceeds 0.05% baseline mortality for the colony population for a feature at any point across the SNCB advised assessment ranges, then this feature should be taken through to cumulative assessment. 57.It is also advised that where the predicted annual mortality equates to 1% or more the baseline mortality of the colony (project alone and/or cumulatively), further consideration is required through Population Viability Analysis (PVA).	
REP3-050.33	REP2-021 **1.1.6 Comments on REP2-021 – Treatment of Birds in Flight Data in Abundance Estimation** 58.Whilst NRW did not comment on this aspect of the Applicant's assessment initially, we welcome the	The Applicant welcomes agreement on the approach taken but would clarify that the densities presented are representative of the Morgan Array Area only and not the Morgan Array Area plus 10 km buffer. The calculation process takes the density for all birds from the Morgan Array Area and multiplies this by the proportion of birds in flight from the Morgan Array Area plus 10 km buffer area (REP2-021).

Reference	Natural Resources Wales submission	Applicant's response
	Applicant's undertaking of comparative analysis between densities of birds in flight from the array area (SNCB advised approach) versus the array area + 10km buffer. It is noted that proportional changes in densities input to Collision Risk Modelling (CRM) can be used to adjust the resulting mortality estimates. By doing so, the proportional increase/decrease in densities identified by the Applicant can be used to inform conclusions on levels of project alone impacts which are nonetheless predicted to be low for the Morgan Generation Project. 59.NRW will continue to advise that densities considered from CRM should be derived from the array area only and any changes to CRM resultant figures as a result of these additional analyses (in line with SNCB advice) will be accounted for when drawing conclusions on levels of predicted impact.	
REP3-050.34	**REP2-023** **1.1.7 Comments on REP2-023 – CEA Review** 60.NRW welcome that the Applicant has engaged with SNCBs on the proposed methodology for a 'gap-filling' exercise and as a result has produced a technical note regarding this exercise in accordance with the SNCB Advice Note at Deadline 1 [REP1-010 & REP2-023], which identified further projects to be included within the scope of work to be submitted at Deadline 3. For more detailed comments on the CEA gap-filling approach please see earlier response to REP1-010 and REP1-056. 19.	The Applicant has submitted this note at Deadline 3 (Review of Cumulative Effects Assessment and In-Combination Assessment: Offshore ornithology (REP3-019)).
REP3-050.35	REP2-016 **1.1.8 Comments on REP2-016 – Mitigation and Monitoring Schedule F01 F02 Tracked** 61.NRW welcome the Applicant's initial consideration of monitoring and mitigation for rafting birds. However, it would be premature to comment on this plan further at this stage. Referred to above (REP1-056.26) and in	The Applicant has submitted the relevant documentation (REP2-018). It is therefore considered that this issue is closed and that a conclusion of no adverse effect on the integrity of the Liverpool Bay SPA can be agreed with both NRW and Natural England.

Reference	Natural Resources Wales submission	Applicant's response
	Examiner's Questions Response (HRA 1.11). NRW remain concerned that the HRA Stage 1 Screening Report does not consider the potential for disturbance and displacement impacts from vessel movements in the construction or operation and maintenance phase on the red-throated diver and common scoter features of Liverpool Bay SPA	
REP3-050.36	REP2-010 **1.1.9 Comments on REP2-010 – Errata F01 F02 Tracked** 62.NRW welcomes the changes to table headings 1.1-1.12 [APP-076].].	The Applicant notes NRW's comments with thanks.
REP3-050.37	REP2-005; para REP1-056.56 to REP1-056.57 **1.2 Marine Mammals** 63. We note this is a summary of NRW's key Written Representations (WR) key issues relating to marine mammals. We have no further comments and note the Applicant explains in further detail elsewhere.	The Applicant notes NRW's response.
REP3-050.38	REP2-005: para REP1-056.58 64. No further comment and issue addressed.	The Applicant notes NRW's response with thanks.
REP3-050.39	REP2-005 para REP1-056.59 to para REP1-056.63 65. NRW can confirm that we still agree with an overall conclusion of "low magnitude". We also note that this methodological discussion does not materially impact our agreement with the overall conclusions that there will be no significant effect / adverse effect on marine mammal populations due to the mitigation methods that will be employed. 66.We welcome the review of the term "habituation" with a greater emphasis on tolerance, and also welcome the Applicant's statement that direct measures of associated energetic costs of exposure to vessel noise would be useful in future. We agree that any parameters for disturbance remain a work in progress in the	The Applicant thanks NRW for their confirmation that this methodological discussion does not materially impact their agreement with the overall conclusions, that there will be no significant effect / adverse effect on marine mammal populations, due to the mitigation methods that will be employed. The Applicant welcomes NRW's confirmation of agreement that any parameters for disturbance remain a work in progress in the scientific community and will not be available for the Morgan project. With regards to the assessment of disturbance from vessels, the Applicant notes NRW's summary point that "Essentially, this is a divergence of opinion on how best to calculate the numbers of animals disturbed." The Applicant welcomes NRW's summary point that '*attempting the above would be disproportionate in terms of the effort involved especially given the uncertainties noted'* but note that NRW are of the opinion that '*this is not equivalent to agreeing that therefore the use of a static radius is a suitable approach to estimate numbers disturbed*'.

Reference	Natural Resources Wales submission	Applicant's response

scientific community and will not be available for the Morgan project.

67.As currently presented, the estimated numbers disturbed are for a vessel at a fixed point in time only. Essentially, this is a divergence of opinion on how best to calculate the numbers of animals disturbed. By way of explanation our written representation was mainly underpinned by three points:

• Firstly, we believe that presenting numbers of animals disturbed based on a static radius to be a significant underestimate compared to a methodology that in some way captures the movement of vessels (even if this is a simplified methodology) –this view is unchanged from the pre-application period. As mentioned in our written representations and pre-application comments, we fully acknowledge that attempting to make a (maximalist) calculation that attempts to include everything (i.e. all variables) without any simplifying assumptions would be challenging for many reasons including for e.g.: (a) absence of existing guidance / standard methodologies that e.g. consider energetic costs of interrupted feeding, (b) the difficulties of considering issues like animal movement in and out of the area / repeated disturbance to the same individual, (c) all individual vessel trips and types which will differ. In other words, independently of whether a radius of 23 km or 3.627 km is used we still agree that attempting the above would be disproportionate in terms of the effort involved especially given the uncertainties noted. However, this is not equivalent to agreeing that therefore the use of a static radius is a suitable approach to estimate numbers disturbed.

• Secondly, in the assessment the main argument posed is that a maximalist calculation would be disproportionate and therefore this justifies taking a static approach presented in table 4.43. We disagree with the conclusion made here because a maximalist calculation and a static approach are not the only two

The Applicant notes NRW (A)'s comments on using a static radius, and the Applicant highlights empirical data used to derive impact ranges have been based on moving receptors in the field (as per the Applicant's Response to Relevant Representation from NRW(A) - Impacts on Marine Mammals from Elevated Underwater Sound Due to Vessel Use (PDA-009)). The impact ranges were applied alongside agreed densities and Management Unit (MU) populations to calculate the number of animals disturbed. The Applicant still considers that assessing the footprint of disturbance for a moving vessel as a continuous area from point A to B along a potential shipping route (leading to an elongated buffer) based upon a precautionary effect range would lead to an overestimate of the effect as it assumes that a disturbance effect would continue even after a vessel has passed and does not consider any rapid recovery of animals following a potential disturbance event. However, the Applicant does note NRW's point that "*a maximalist calculation and a static approach are not the only two options possible".*

Whilst in the Applicant's response to Written Reps, the Applicant noted that "*further calculations would not change the outcome of the assessment",* and as above, NRW agrees that there will be no significant effect / adverse effect on marine mammal populations, the Applicant has provided further in formation to align with NRW's proposal to *"apply the modelled impact range of 3.627 km (noting that this would still be an overestimate if we were to assume 100% disturbance)"* – the numbers of animals disturbed using the modelled 3.627 km (as suggested by NRW (A), to provide more realism in the assessment) are presented below, in comparison to the 7 km radius.

Species	No. of animals disturbed (7 km)	Max. % of MU	No of animals disturbed (3.627 km)	Max. % of MU
Harbour porpoise	41	0.07%	11	0.017
Bottlenose dolphin	<1	0.07%	<1	0.017
Short-beaked common dolphin	<1	0.00003%	<1	0.000012
Risso's dolphin	5	0.04%	2	0.011
Minke whale	3	0.01%	<1	0.004
Grey seal	7	0.05%	2	0.013
Harbour seal	<1	0.0005%	<1	0.0001

The number of animals disturbed for the 3.627 km modelled range still represents a precautionary approach as it does not apply a dose-response approach (assumes 100% disturbance). However, the approach does illustrate that fewer animals would be disturbed if applying the modelled range approach and, therefore this approach does not change the conclusions of the assessment in

Reference	Natural Resources Wales submission	Applicant's response
	options possible. It is quite possible to carry out some form of intermediate simplified methodology (e.g. as has been suggested in our written representations) and such an approach does not seem to have been considered in the assessment. • Finally, we note the argument that using a behavioural impact radius of 7 km is a worst-case scenario and more conservative than the modelled range of 3.627 km, or the range of 4 km at which responses were no longer noted in Benhemma Le Gall et al. 2020. We agree that this is valid in the context of an impact area calculated from a static radius. However, as we posited in the first point, a static radius would be an underestimate compared to a simplified methodology which captures the movement of vessels. This is why we suggest that in an effort to make the latter method more realistic and avoid the potential over precaution from a blanket application of a 7 km radius which assumes 100 % disturbance, the Applicant could for example either (a) apply the modelled impact range of 3.627(noting that this would still be an overestimate if we were to assume 100% disturbance), or (b) use refinements based on the literature. As suggested in our written representations, one example of this could have been assuming e.g. 24% disturbance at 3 km, and 0% at 4 km (as per Benhemma le Gall et al). 68.NRW notes the commitment of the Applicant to the development of, and adherence to, an Offshore Environmental Management Plan (EMP) which includes measures to minimise disturbance to marine mammals (and rafting birds) from transiting vessels. We welcome this commitment, which we consider could mitigate most of the impacts, making the overall conclusions acceptable.	Volume 2, Chapter 4: Marine mammals (AS-010) (which considers the numbers of animals disturbed from the 7 km impact range approach). The Applicant understands NRW (A)'s suggestion that using the 3.627 km range may reduce some of the over precaution in assuming 100% disturbance but considers that the approach taken in the application ensures a precautionary assessment whilst incorporating evidence from scientific literature. Furthermore, in response to NRW's proposal to "*use refinements based on the literature. As suggested in our written representations, one example of this could have been assuming e.g. 24% disturbance at 3 km, and 0% at 4 km (as per Benhemma le Gall et al).*", the Applicant highlights their response to MM 1.17, as set out in the S_D3_4: Applicant's Response to Examining Authority's Written Questions (ExAQ1) (REP3-006) "The Applicant also acknowledges that a dose-response approach from Benhemma le Gall *et al.* (2021) could be derived as an alternative approach (noting this has not been used or accepted on other OWFs previously), but given that no apparent response was observed at 4 km in this study (which is similar to the maximum modelled disturbance range of 3.627 km, as presented in Volume 2 Chapter 4: marine mammals (AS-010)) using this dose-response would assume no animals are impacted at 4 km. Given that 41 harbour porpoise were predicted to be impacted under the 7 km radius approach (as presented in Volume 2 Chapter 4: marine mammals (AS-010)) the Applicant maintains the most precautionary approach has been applied." The Applicant thanks NRW for their comments on the project's commitment to an Offshore Environmental Management Plan (EMP) which includes measures to minimise disturbance to marine mammals (and rafting birds) from transiting vessels and in particular welcome the position that *"which we consider could mitigate most of the impacts, making the overall conclusions acceptable".* In light of the new information presented above (on dose-response and modelled ranges) and NRW's position that the commitment to the Offshore EMP would make "*the overall conclusions acceptable"* the Applicant would hope that this would alleviate concerns and propose that this matter is now resolved.
REP3-050.40	REP2-005; para REP1-056.64 to REP1-056.72 69. NRW considers the Applicant's response is sufficient and welcome the Applicant's commitment that	The Applicant thanks NRW for their response and will continue to engage with NRW on the Final MMMP.

Reference	Natural Resources Wales submission	Applicant's response
	the time period and final Acoustic Deterrent Device (ADD) duration will be agreed post-consent, in the final Marine Mammal Mitigation Plan (MMMP) and secured by condition within the Development Consent Order (DCO).	
REP3-050.41	REP2-005; para REP1-056.73 to REP1-056.74 70. Volume 2, Chapter 4: Marine Mammals [AS-010] which NRW received after WR submission, discusses barrier effects in more detail for marine mammals. NRW consider the Applicant's assessment to be sufficient and this issue to be resolved.	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.42	REP2-005; para REP1-056.75 to REP1-056.78 71. NRW have reviewed the Applicant's response on interrelated effects [PD1-017]. Given the mitigation measures planned, including the development of the MMMP, and we anticipate being able to agree with the overall conclusions in the marine mammals chapter of the environmental statement (ES) [AS-010] following discussion and provided agreement is reached on mitigation measures post-consent, secured through conditions.	The Applicant thanks NRW for their response on this matter and proposes that this can now be closed.
REP3-050.43	REP2-005; para REP1-056.79 to REP1-056.-80 72. These paragraphs refer to our representations about the Applicant's outline Underwater Sound Management Strategy (USWMS). We welcome the commitment of the Applicant to continue to engage with NRW to develop the USWMS during examination and post-consent	The Applicant thanks NRW for their response and will continue to engage with NRW on the MMMP and UWSMS.
REP3-050.44	REP2-005: para REP1-056.81 73. We welcome the Applicant's response and consider this issue now resolved.	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.45	REP2-005; para REP1-056.82 to para REP1-056.85	The Applicant welcomes the agreement and considers this issue closed.

Reference	Natural Resources Wales submission	Applicant's response
	74. We welcome the Applicant's response and consider this issue now resolved.	
REP3-050.46	REP2-005; para REP1-056.86 to REP1-056.88 75. We welcome the Applicant's response and consider this issue now resolved	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.47	REP2-005; para REP1-056.89 to REP1-056.92 76. NRW welcomes the final MMP which will be developed post-consent and in line with any new advice and guidance. In addition to the Applicant revisiting the sound modelling post-consent as part of the final UWSMS once project details have been finalised. This modelling (applying the confirmed project parameters (e.g. hammer energy)) will inform the establishment of a specific mitigation zone for piling, and thus an appropriate MMMP.	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.48	REP2-005; para REP1-056.93 77. NRW have reviewed the Applicant's response to this matter [PD1-017, section RR-027.43 and RR-027.48] and are satisfied with the Applicant's understanding of Cumulative Effects Assessment.	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.49	REP2-005; para REP1-056.3 **1.3 Fish and Shellfish** 78. We note the Applicant welcomes our response, we therefore have no further comments in this instance.	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.50	REP2-005; para REP1-056.4 **1.4 Physical Processes** 79. Our response has been noted by the Applicant in relation to physical processes, we therefore have no further comments in this instance.	The Applicant welcomes the agreement and considers this issue closed.
REP3-050.51	REP2-005; para REP1-056.5 **1.5 Benthic Subtidal and Intertidal Ecology**	The Applicant notes that NRW defers all benthic ecology advice to Natural England and therefore considers this point to be closed with NRW.

Reference	Natural Resources Wales submission	Applicant's response
	80. Our response has been noted by the Applicant in relation to benthic subtidal and intertidal ecology, we therefore have no further comments in this instance.	
REP3-050.52	REP2-005; para REP1-056.6 **1.6 Biodiversity Benefit** 81. We note the Applicant welcomes our response, we therefore have no further comments in this instance	The Applicant thanks NRW and notes the response.
REP3-050.53	REP2-005; para REP1-056.7 **1.7 Designated Landscapes/Seascapes** 82. Our response has been noted by the Applicant in relation to physical processes, we therefore have no further comments in this instance	The Applicant thanks NRW and notes the response.

2.4 Orsted IPs

Table 2.4: REP3-070 – Orsted IPs

Reference	Ørsted IP's submission	Applicant's response
REP3-070.1	**Introduction** 1.1 This submission is provided in accordance with Deadline 3 of the examination timetable for the application by Morgan Offshore Wind Farm Limited (the "Applicant") for an Order under the Planning Act 2008 (the "Act") granting Development Consent for the Morgan Offshore Wind Farm (the "Project"). 1.2 We represent six owners of operational offshore windfarms in the East Irish Sea (as set out relevant representations RR-005, RR-007, RR-023, RR-032, RR-043, RR-044), who we refer to together as the "Ørsted IPs". 1.3 In this submission, the Ørsted IPs respond to comments made by the Applicant on the Ørsted IPs' written representations [PD-017]. 1.4 In particular, the Ørsted IPs wish to respond to the Applicant's comments regarding energy yield/wake loss, and two of the Ørsted IPs Walney Extension Limited ("WEL") and Morecambe Wind Limited ("MWL") wish to respond to comments made in respect of shipping and navigation. 1.5 We note that the Ørsted IPs' responses on energy yield build upon, and should be read alongside, the documents submitted in response to the written questions of the examining authority ("ExQ1") [PD-004], also provided at deadline 3.	This response is noted by the Applicant. Please refer to the responses below.
REP3-070.2	**2. Energy yield / wake loss** 2.1 The Ørsted IPs note that the Applicant's comments on their written representations [REP2-005] cover several key issues and refer to the Applicant's deadline 1 'response to wake loss' submission [REP1-016]. For ease of reading, the Ørsted IPs' responses are	The response is noted by the Applicant.

Reference	Ørsted IP's submission	Applicant's response
	structured by issue and respond to the Applicant's comments in [REP2-005] and [REP1-016].	
REP3-070.3	*Requirement for assessment* 2.2 The Applicant does not consider there is a legal or policy basis for a wake loss assessment. In particular, the Applicant asserts that there is no scope to consider wake loss through the EIA process.	The response is noted by the Applicant.
REP3-070.4	2.3 The Ørsted IPs do not agree. As explained in the Ørsted IPs' response to ExQ1 INF.4(vii), effects on climate fall within the scope of the EIA process. Regulation 5(2) of the EIA Regulations sets out the factors for which significant effects should be assessed, including 'climate'. Effects on climate are further elaborated on in under Schedule 4 (Information for inclusion in Environmental Statements), which relevantly provides that "the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions)" should be assessed.	The Applicant notes that it is the Ørsted IPs position that they consider (that in order to be compliant with the EIA Regulations) wake effects should be considered under the climate change assessment; specifically, within the Greenhouse Gas (GHG) assessment. The Applicant has undertaken an assessment of effects on climate (Volume 2, Chapter 12: Climate Change (APP-016)) and Volume 4, Annex 12.1 (APP-046) provides a Greenhouse gas assessment technical report, which considers avoided emissions, the quantity of renewable energy use it enables by avoiding curtailment, the quantity of fossil fuel generation it displaces, and the associated GHG impacts of both. The assessment makes a calculation of the project's GHG balance against the Department of Energy Security and Net Zero (DESNZ) long-run marginal electricity grid carbon intensities, published by National Grid. The assessment has been undertaken in accordance with the leading guidance published by IEMA on 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (2022). The assessment provides a robust conclusion on what the likely significant effects are on the environment, which is the purpose of the EIA Regulations. Notwithstanding the above, the Applicant has confirmed (at ISH2, S_D4_4) that it will utilise the figures provided by the Ørsted IPs to provide a calculation of the potential indirect effect of the Morgan Generation Assets on climate resulting from the suggested reduction in energy yield, specifically the net effects on GHG emissions. This would in no way suggest the Applicant is in agreement with the Ørsted IP figures (as set out in the Applicant's response to REP3-070.9). The Applicant would need to be provided with a more detailed breakdown of the output of the figures, in particular which impacts the Ørsted IPs consider relate to which project. If such figures are provided to the Applicant by the Ørsted IPs then it would use these to provide a technical note on calculation of the net effects on GHG emissions. The Applicant anticipates that the Ørsted IPs may submit further detail at Deadline 4, and so notwithstanding any issues with that data, the Applicant will be in position to produce the note by Deadline 5.
REP3-070.5	2.4 The Applicant has carried out an assessment of the Project's impacts in respect of climate change in its Environmental Statement (F2.12 Environmental Statement - Volume 2, Chapter 12 Climate change)	The response is noted by the Applicant and it is confirmed that the Morgan Generation Assets net effects assessment of GHG emissions across the whole lifetime of the project in APP-016, concluded positive beneficial net effect which would be significant in EIA terms.

Reference	Ørsted IP's submission	Applicant's response
	[APP-016]. This assessment includes a net assessment of the GHG emissions arising from the Project, and concludes the Project will have a significant benefit in EIA terms, as a result of avoided emissions.	
REP3-070.6	2.5 We consider that the Applicant's net assessment of the climate benefits of the Project is likely to be inaccurate, as it does not account for the loss or renewable energy generation at the Ørsted IPs' developments.	Volume 4, Annex 12.1: Greenhouse gas assessment technical report (APP-046) details the methodology for the assessment. The marginal source of energy generation displaced by new renewable generation must be based on a prediction of the future long-term trends of generation type, which has inherent uncertainty built-in. Any assessment must be considered on the basis that the long-run marginal emissions from future generation may at any point include more, or less, renewables generation from other generators than the long-run marginal data set assumes. In this regard at a high-level, possible reduction of generation by the Ørsted IPs and replacement of generation by alternative generators, is already factored into the assessment. It is also noteworthy that as the UK moves towards its 2050 net zero carbon target, the marginal source of electricity generation will likely become a combination of renewables (predominately solar and wind) and storage. Therefore, from circa 2040 onwards, comparing the Morgan Generation Assets' GHG impacts with the marginal source of generation is akin to comparing it with itself and has limited value. As noted in the IEMA EIA Guidance on Assessing GHG Emissions (IEMA, 2022) "*the crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050*." The Applicant submits that it is uncontentious that factoring in any potential change in the Ørsted IPs generation output, when viewed against the long term-marginal source of electricity that would replace that generation, would not change the outcome of the EIA assessment for GHG net effects (see section 12.11 of Volume 2, Chapter 12: Climate change (APP-016)) as beneficial, and therefore of positive significance in EIA terms. However, the Applicant has confirmed (at ISH2, S_D4_4) that it will utilise the figures provided by the Ørsted IPs to provide a calculation of the effects of the project on climate, specifically the net effects on GHG emissions. The Applicant can confirm that this assessment will be presented at Deadline 5. This would in no way suggest agreement with the Ørsted IP figures (as set out in the Applicant's response to REP3-070.9). The Applicant would need to be provided with a more detailed breakdown of the output of the figures, in particular which impacts the Ørsted IPs consider relate to which project. If such figures are provided to the Applicant by the Ørsted IPs then it would provide a technical note on calculation of the net effects on GHG emissions. The Applicant anticipates that the Ørsted IPs may submit further detail at Deadline 4, and so notwithstanding any issues with that data, the Applicant will be in position to produce the note by Deadline 5.

Reference	Ørsted IP's submission	Applicant's response
REP3-070.7	2.6 Notwithstanding the above, the Ørsted IPs consider the requirement to undertake an assessment is grounded primarily in the NPS-EN3, which is the primary policy for Secretary of State ("SoS") decision making relating to renewable energy NSIPs (alongside NPS-EN1). In particular, the following provisions are relevant: • 2.6.1 Paragraph 2.8.197 requires that, where a potential offshore wind farm is proposed "close to existing operational infrastructure or has the potential to affect activities for which a licence has been issued by government" the Applicant should assess the potential effects on that development. • 2.6.2 Paragraphs 2.8.344-2.8.345, which relate to SoS decision making, direct that where a project potentially affects other offshore infrastructure or activity, applicants should work with the relevant sector to minimise negative impacts,2 and that the SoS should be satisfied that "the site selection and site design of a proposed offshore wind farm and offshore transmission has been made with a view to avoiding or minimising disruption or economic loss… to other offshore industries."	The Applicant explained its position on the correct application of policy at ISH 2 (see Applicant's summary of submissions at ISH2 (S_D4_4)). It is a principle of legal interpretation that where words are not defined (as 'close' is not in paragraph 2.8.197 of NPS EN-3) they should be given their ordinary meaning. Taking the definition from the Cambridge dictionary, close means proximate or not far from. At over 8 km and up to 60 km from the Ørsted IPs projects the Morgan Generation Assets cannot in any sense be said to be close to those projects. It is also important to note that had it been the intention of this policy to apply to all existing offshore infrastructure, the word close would not have been used to limit or contain circumstances when assessment is required. As discussed during ISH2 (S_D4_4; 34), the Applicant also maintains the 2nd limb of paragraph 2.8.197, is whether the Morgan Generation Assets could affect activity for which a licence has been issued by Government. Projects have a marine licence and a generation licence. The activities authorised by these licences are unaffected by the Morgan Generation Assets, because a marine licence authorises deposit of structures on the seabed, and a generation licence ensures construction and operation of an offshore wind farm is not a criminal offence. Neither licence authorises or guarantees operation of the offshore wind farms at a specific level or grants a right to wind. Unlike other types of licence such as extraction licence where Government authorises taking of substance from the seabed and has levied a charge for that. This is not applicable to offshore wind farms. The Applicant would also like to draw the ExA's attention to a response from The Crown Estate (TCE) to an ExA question in the Outer Dowsing Offshore Wind (Generating Station) Examination (EN010130-001231-The Crown Estate - Responses to ExQ1.pdf) (REP2-080) which confirms that TCE took account of wake effects, amongst other matters, when setting the 7.5 km distance between Round 4 leasing areas and other OWFs (unless otherwise agreed to be less with the relevant OWF). TCE note that this increased distance, relative to previous bidding rounds where it was 5 km, was for the purpose of de-risking the Round 4 tender process by providing additional mitigation and assurance to participants through limiting proximity to other OWFs, or in other words, ensuring they were not close to each other. TCE controls leasing of seabed and interactions. As part of the leasing process, TCE requires new interests to seek consent from existing leaseholders where there is the potential for those projects to interact. For Round 4 projects, TCE required a minimum separation distance of 7.5 km between existing projects, and where existing assets could be affected based on distance, consent of that party is needed. All of Ørsted IP projects are beyond the area within which consent would be needed – with a separation of 8.1 km between the Morgan Generation Assets and the closest Ørsted IP project.
REP3-070.8	2.7 The Ørsted IPs' developments constitute "existing operational infrastructure" which is "close to" to the	The Applicant refers to the response provided in REP3-070.7.

Reference	Ørsted IP's submission	Applicant's response
	Project. Proximity in the context of this policy should be determined on the basis of the potential for the existing infrastructure in question to be impacted by the project – there is no other meaningful basis for making this determination in a planning context.	
REP3-070.9	2.8 The Ørsted IPs have submitted a substantial portfolio of academic evidence which demonstrates that material wake effects can occur at farm-to-farm separation distances greater than 30km. Additionally, preliminary modelling commissioned by the Ørsted IPs indicates the Project is likely to have a material impact on their developments (ranging between 0.2-3.5% AEP, and considerably higher cumulative effects at each development). Evidently, the developments are "close" for the purposes of this effect.	The Applicant refers to the response provided in REP3-070.7 and notes the figures presented by the Ørsted IPs, where they suggest that preliminary external modelling, commissioned by the Ørsted IPs, has indicated a range of effects between 0.2-3.5% Annual Energy Production (AEP) across their projects from the Morgan Generation Assets alone, and 'considerably higher' when considered cumulatively with the Mona and Morecambe projects. The Applicant is unable to ascertain, from the information provided, the key assumptions and inputs that the modelling has used for variables such as: • Wind resource (time period of data assumptions on atmospheric stability, turbulence and boundary layer height) • Operating performance of the Ørsted IPs wind farms, other developers operational wind farms in the region, and the Applicant's project, interactions between the Ørsted IPs wind farms • Any grid curtailment and planned an unplanned outages for all projects in the region. No information has been provided by the Ørsted IPs on the methodologies employed, in particular the wake loss model that was used and how the model was set up. It is also not clear which results in the range provided relate to which of the Ørsted IPs projects. The Applicant is therefore unable to check, assess, replicate or verify the numbers provided by the Ørsted IPs, and is therefore unable to provide any comment on the figures provided. The Applicant would note that without any information to explain the process undertaken to produce the figures, and how to understand and verify the results, they figures should be treated with considerable caution. The Applicant maintains that this does not mean that the developments are "close" for the purposes of this effect, especially as it extends across the entire Irish Sea.
REP3-070.10	2.9 Therefore, the Applicant is required to undertake an assessment. Until it does so, the Secretary of State will not be in a position to carry out its decision making in accordance with 2.8.344- 2.8.345 of the NPS-EN3, as required by section 104 of the Planning Act 2008.	The Applicant maintains that the submission of a wake assessment is not appropriate or necessary according to the EIA Regulations and NPS policy. The information within the Environmental Statement and application documents is considered more than adequate to demonstrate that the NPS policy tests have been met and therefore as such, there is no requirement to submit a further assessment. NPS EN-3, paragraph 2.8.198, states an assessment should be undertaken for all stages of the lifespan of the wind farm in accordance with the appropriate policy and guidance for offshore wind farm areas. The Applicant notes that there is no appropriate policy or guidance for offshore wind

Reference	Ørsted IP's submission	Applicant's response
		farm areas on which to undertake a wake loss effects assessment. An assessment of this nature is not something that has previously been undertaken for any consent application or assessment to date, and there is no guidance in existence which would allow a transparent and informed assessment to be undertaken of a new wind farm on the yield of existing operational wind farms. This creates a barrier to a meaningful assessment and would present a challenge to the consenting authority in interpreting the results submitted by any party. The Applicant would also highlight that unlike other areas where regulators have driven the development of an approach to EIA and assessment (for example the approaches of NRW, JNCC and others to ornithological assessment), the suggestion that a wake loss assessment is required is not being raised by regulators or the Government. If the need for such an assessment was a genuine policy requirement it would be being directed by the Secretary of State along with an accepted framework for quantifying the extent of effects and the measures that should be explored to mitigate effects. This is clearly not the case here. The Applicant also notes that the policy in paragraphs 2.8.197 and 2.8.198 of NPS EN-3 (2023) is the same as the policy in the previous 2011 version of NPS EN-3 (see paragraph 2.6.179). Despite this policy being in place for more than a decade, offshore wind farms have not been required to undertake wake loss assessments as part of their applications. That is despite many projects being built in much closer proximity than the Morgan Generation Assets would be to the Ørsted IP projects. If the Ørsted IPs are correct, the policy has been incorrectly applied for the last 13 years and applications (six of which have been promoted by Ørsted with no wake effects assessment contained) accepted into Examination by the Planning Inspectorate on behalf of the Secretary of State are incomplete. The Applicant respectfully submits that such a suggestion is incorrect and should be strongly rejected. Notwithstanding this, the Applicant has confirmed (at ISH2, S_D4_4) that it will utilise the wake impact figures provided by the Ørsted IPs to provide a calculation of the effects of the project on climate, specifically the net effects on GHG emissions. This would in no way suggest agreement with the Ørsted IP figures (as set out in the Applicant's response to REP3-070.9). The Applicant would need to be provided with a more detailed breakdown of the output of the figures, in particular which impacts the Ørsted IPs consider relate to which project. If such figures are provided to the Applicant by the Ørsted IPs then it would use these to provide a technical note on calculation of the net effects on GHG emissions.
REP3-070.11	2.10 The Applicant has referred to steps it has taken to minimise the effects of the Project generally by reducing the array area. We do not consider this is sufficient to exercise decision making in accordance with 2.8.344-2.8.345 of the NPS-EN3 - without assessing and understanding the effects of the Project, it is not	The Applicant reduced its array area Red Line Boundary between PEIR and submission to primarily address safety of navigation, but this also increased the distance between the Morgan Generation Assets and the Ørsted IPs projects, by a further 0.6 km at the closest point (from the existing 7.5 km separation distance). As there is no meaningful way to assess wake effects (as described in REP1-016, REP2-005, REP3-006), and as wake effects are known to extend over many 10's of kilometres, the Ørsted IPs

Reference	Ørsted IP's submission	Applicant's response
	possible to understand whether such effects have been avoided, minimised or properly designed for.	are effectively sterilising the seabed from future development and new energy MW generation because the only way to mitigate the effect is to increase the distance between projects, beyond that which is feasible or possible under TCE's leasing rounds. Wakes are, and will be, experienced across the Irish Sea. Noting that the Morgan Generation Assets' location is restricted to TCE's Agreement for Lease Area, increasing the distance to the Ørsted IPs' projects can only be achieved by decreasing the Morgan Generation Assets site area. This will have a disproportionately greater effect on the new clean energy generation and associated carbon savings from the Morgan Generation Assets, due to the increase in the layout density, compared with the lesser effect any greater distance would have on mitigating wake effects on the existing projects.
REP3-070.12	2.11 The Ørsted IPs also do not consider compliance with siting requirements in the TCE leasing process is sufficient to satisfy the SoS of its decision-making obligations.3 As noted in previous submissions, that process was not designed to regulate effects between sea-users in the manner contemplated by paragraphs 2.8.344-2.8.345.	The Applicant refers to the response given in REP3-070.7.
REP3-070.13	*Support for the Project under the NPSs4* 2.12 The Applicant has highlighted a number of NPS policies which provide support for the Project. The Applicant has relied on these policies so support its position that an assessment of wake effects is not required. In particular, the Applicant has flagged that some of these policies recognise that there will be residual adverse effects as a result of new renewable energy development (in particular, paragraphs 3.1.1-3.1.2 of the NPS EN-1).	The Applicant notes this response.
REP3-070.14	2.13 The Ørsted IPs do not dispute that the relevant NPSs provide support for new renewable energy development, in principle. However, these generally supportive policies do not justify noncompliance with specific requirements of the NPSs. Additionally, the policies flagged by the Applicant include caveats that adverse effects will be minimised – they do not provide blanket support regardless of a proposal's effects.	The Applicant strongly rejects any suggestion that there has been non-compliance with the NPSs and it is not the Applicant's case that the policies that provide support for renewable energy development are to be applied in that manner. The implication that this has been the Applicant's approach is considered disingenuous.

Reference	Ørsted IP's submission	Applicant's response
REP3-070.15	2.14 As highlighted above, the specific policies engaged are those at paragraph 2.8.197 (which requires an assessment of effects to be undertaken where a potential offshore wind farm is proposed "close to existing operational infrastructure"), and 2.8.344-2.8.345, which relate to SoS decision making (the SoS must be satisfied site selection/design has been made with a view to avoiding or minimising disruption or economic loss to other offshore industries).	The Applicant refers to the Hearing Summaries (S_D4_4), where it was discussed during ISH2, Agenda item 4a, that the wording in 2023 NPS-EN3 is the same as the wording in the 2011 NPS-EN3 (para 2.6.179). The relevant paragraphs in NPS EN-3 (2023) do not impose a new requirement for assessment of wake effects. The Applicant also maintains that the Morgan Generation Assets are not close to the Ørsted IPs as detailed in responses at REP3-070.7 and REP3-070.9.
REP3-070.16	2.15 These policies clearly establish a requirement that effects are assessed and minimised. The Applicant refuses to undertake an assessment of the Project's wake effects and therefore it is not possible to demonstrate that such effects have been minimised. This is particularly important in light of the significance of the impact indicated by the preliminary modelling commissioned by the Ørsted Ips, which indicates that Project-alone impacts will be up to 3.5% and cumulative effects up to 5.3%.	The Applicant notes the figures presented by the Ørsted IPs in REP3-070, where they suggest that preliminary modelling, commissioned by the Ørsted IPs, has indicated a range of effects between 0.2-3.5% Annual Energy Production (AEP) across their projects from the Morgan Generation Assets alone, and between 0.2-5.3% AEP when considered cumulatively with the Mona and Morecambe projects. As per the response provided to REP3-070.9, the Applicant would note that without any information to explain the process undertaken to produce the figures, and how to understand and verify the results, they figures should be treated with considerable caution. Notwithstanding the above constraints on the Applicant being able to verify any specific figures, the Applicant has committed to using the indicative numbers provided by the Ørsted IPs (or those presented in any further detailed assessment that may be submitted by Ørsted IPs at Deadline 4) to provide a technical note on calculation of the net effects on GHG emissions, which will be submitted into the Examination at Deadline 5.
REP3-070.17	*Difficulty of undertaking an assessment5* 2.16 The Applicant considers that a wake loss assessment cannot be undertaken to "provide a meaningful or reliable assessment". 6 This is a remarkable statement. Energy yield is the key economic driver for the Project. The idea that an assessment of wake impacts cannot be undertaken is simply not credible.	The Applicant refers to the response given at REP3-070.10. In addition, the Applicant agrees that energy yield is a key economic driver for the Project and any mitigation to reduce the impacts claimed by Ørsted will be disproportionate to the greater impact on the new clean energy generation and associated carbon savings from the Morgan Generation Assets, due to the increase in layout density, compared with the lesser effect any greater distance would have on mitigating wake effects on the existing projects.
REP3-070.18	2.17 There is a significant body of research on wake effects between offshore windfarms (as evidenced by the research submitted by the Ørsted IPs). Specialist consultants who work with the offshore wind industry	The Applicant is aware of ongoing research, as there is for any topic, and that this discussion is happening in other current live examinations. The Applicant appreciates that modelling is undertaken by specialist consultants in the industry, but all use different models, methodologies, will have limited inputs and any comparison of multiple software outputs or consultant opinions is likely to lead to a very large variation in predicted loss, all

Reference	Ørsted IP's submission	Applicant's response
	have developed software and models to assist the industry in understanding energy yield and wake effects.	of which would be deemed to be credible by their sources. None of these models have been developed under policy, with guidance in place from a relevant statutory authority, for use within the EIA context. This is reflective of the low understanding of long-range wake losses, the immaturity of these models, very large uncertainty in these predictions, and low relevance to the specific scenario for Morgan Generation Assets and Ørsted IPs.
REP3-070.19	2.18 As with modelling of other environmental factors, assumptions must be made in carrying out such assessments. In that regard, there is the potential to utilise both publicly available and private information to facilitate the modelling of effect. As we have previously submitted, the Applicant is best placed to provide information regarding site layout and information about existing schemes is in the public domain.	Modelling of wake effects is dependent on accurate information of the wind farm that is being proposed as well as the existing operational wind farm (for instance their current yield, downtime, curtailment, internal wakes etc.). It is also highly dependent on the choice of model used to undertake the assessment, and the decisions made in how to run the model. It is noteworthy that there are large number of wake loss models used throughout the industry, each likely to produce different outcomes for a given scenario (noting that as set out above, understanding the inputs of the scenario is not straightforward or set out in agreed guidance). Different developers have different considerations when choosing which wake loss models to use, and different approaches to how to run the models. There is no single verifiable approach that exists that could be used to produce an outcome, or range of outcomes, that would be meaningful in the context of this Examination. The Applicant would also note that where an EIA is undertaken it should be in an open and transparent manner, with methodologies, models, assumptions and outputs all capable of being independently verified.
REP3-070.20	2.19 There are ways information can be provided which assists in improving the accuracy and robustness of the assessment. This is standard practice in the offshore wind industry and there is no reason why this information should be withheld. In respect of the disclosure of confidential information, the Ørsted IPs consider there are a number of ways the parties could manage this risk – for example, through the agreement of NDAs, or through the provision of confidential information to an agreed third party to undertake the analysis. It is noted that similar arrangements exist with other stakeholders in relation to commercially sensitive information (for example, in respect of commercial fisheries).	In order to model the real-world situation in the Irish Sea, as the Ørsted IPs contend is possible and should be undertaken, detailed, and commercially sensitive information would be needed not only for the Applicant's proposed development and the Ørsted IPs developments, but also for other projects in the Irish Sea that are owned and operated by other parties, none of whom are suggesting that such an assessment should be undertaken. The Applicant is not party to information from those other developers, and has no mechanism by which to request it or reason to believe they would provide it. Confidential information can be provided where it is required in law (for example details of certain protected species surveys, such as badgers), but it should not be the basis on which whole assessments are undertaken. The Applicant would also highlight that it is not, as was suggested, standard practice to use and not make available confidential information in fisheries assessments. As is demonstrated in Volume 4, Annex 6.1: Commercial fisheries technical report (APP-059) this information is provided as part of an application in order that it can be reviewed and validated by third parties as part of any assessment undertaken.
REP3-070.21	2.20 Therefore, wake loss is an effect which, practically speaking, can be accurately and robustly assessed.	The Applicant refers to the responses given to REP3-070.7, REP3-070.10, and REP3-070.11.

Reference	Ørsted IP's submission	Applicant's response
REP3-070.22	2.21 While undertaking an assessment of wake loss effects is not necessarily a simple exercise, we consider that all of the challenges raised by the Applicant are capable of being overcome through cooperation between the parties. We note that the NPS-EN3 directs applicants to work with affected industries "with an aim to resolve as many issues as possible".7 There has been no attempt by the Applicant to work productively with the Ørsted IPs on this matter. Furthermore, the Ørsted IPs consider that difficulty in carrying out an assessment does not exempt the Applicant from fulfilling this requirement.	As detailed in response to REP3-070.4; 2.3 the Applicant agreed with Ørsted IPs that it will utilise the figures provided by the Ørsted IPs to provide a calculation of the effects of the project on climate, specifically the net effects on GHG emissions. This would in no way suggest the Applicant is in agreement with the Ørsted IP figures (as set out in the Applicant's response to REP3-070.9). The Applicant would need to be provided with a more detailed breakdown of the output of the figures, in particular which impacts the Ørsted IPs consider relate to which project. If such figures are provided to the Applicant by the Ørsted IPs, then it would use these to provide a technical note on calculation of the net effects on GHG emissions.
REP3-070.23	2.22 The Applicant has also suggested that a "lack of existing guidance or policy for undertaking such an assessment" means that an assessment cannot be undertaken. We note that is not a requirement under the NPS-EN3 that an effect must be subject to Government-level/singular guidance in order to be assessed.	At no point has the Applicant suggested that there must be singular guidance in order for an assessment to be carried out. The Ørsted IPs, again, misinterpret the Applicant's position in their own response. However, a lack of guidance is a relevant factor when considering how meaningful the outputs would be of any assessment work and how the outputs should be interpreted by a decision maker, particularly when having regard to the inherent uncertainties of wake loss modelling as described above and the NPS policy (EN3 – 2.8.198) that requires such any assessment to be undertaken 'in accordance with appropriate policy and guidance for offshore wind EIAs' which does not exist. The Applicant also refers to the Hearing Summaries (S_D4_4), where it was discussed during ISH2, Agenda item 4a, that the wording in 2023 NPS-EN3 is the same as the wording in the 2011 NPS-EN3 (para 2.6.179). The relevant paragraphs in NPS EN-3 (2023) do not impose a new requirement for assessment of wake effects.
REP3-070.24	2.23 Projects of the scale contemplated by the NSIP consenting process are likely to result in a large variety of potential effects, some of which may not yet be subject to single industry guidance. The purpose of these policies is to ensure that the effects of a project on pre-existing/authorised infrastructure are understood and addressed. Applicants for developments of this significance should be prepared to respond to the potential for such effects, and as directed by the NPS-EN3 should be working with the relevant sector to ensure effects are addressed.	The Applicant notes that the Mooir Vannin Scoping Report does not contain reference to wake effects. Whilst it is recognised that it is not being brought forward under the Planning Act, the consent application materials appear to be being developed as though it were and is (based on the approach set out within the scoping report) following all relevant EIA guidance that an NSIP of a similar nature would. As the Mooir Vannin project is being promoted by Ørsted, it appears that Ørsted do not consider it necessary for their own projects to make an assessment of such matters (as has been the case for the other six Ørsted projects that have been brought forward under the Planning Act to date). Further, the Applicant cannot see any response to the Scoping Report from the Ørsted IPs to Mooir Vannin in the Scoping Opinion. The Applicant is surprised by this given the Ørsted IPs claimed importance of an assessment being undertaken for all of the Round 4 developments (both within the Irish Sea and North Sea). The Mooir Vannin project is of a similar size, location and distance from the Ørsted IPs assets compared to the Morgan Generation Assets and is therefore assumed to have an equivalent wake effects potential on the Ørsted IPs assets.

Reference	Ørsted IP's submission	Applicant's response
REP3-070.25	2.24 Additionally, as explained above, there is a significant body of research on wake effects between offshore windfarms and specialist consultants who work with the offshore wind industry have developed software and models to assist the industry in understanding energy yield and wake effects.	The Applicant refers to the responses given to REP3-070.18.
REP3-070.26	**Shipping and navigation** 2.25 At REP1-062.6 and REP1-064.10, the Applicant has noted (in response to WEL and MWL's submissions that the Project will result in a change in risk at their developments), that its NRA concludes that navigation risks having been reduced to as low as reasonably practicable.	The Applicant confirms this interpretation by the Ørsted IPs as documented in the NRA (APP-060).
REP3-070.27	2.26 MWL and WEL note that NRA provides information relating to overall risks, rather than risks to individual receptors. MWL and WEL consider this is a matter best discussed between the parties in the first instance, and intend to reach out to the Applicant on that basis. MWL and WEL note they consider the same principle applies to information regarding ongoing engagement with vessel operators (responded to at REP1-062.9 and REP1-064.13). MWL and WEL reserve their rights to raise this issue during the examination, if engagement is not forthcoming	The Applicant and Ørsted IPs met on the 21 November 2024 to discuss this point and further information was provided via email on 05 December 2024. The Applicant confirmed to MWL and WEL that the NRA shows an increase in risk of allision to Ørsted IPs assets as a result of the presence of Morgan Generation Assets. However, and importantly, the NRA concludes the risk of allision in the shipping and navigation study area as a result of the Morgan Generation Assets (including to Ørsted IP assets) is Tolerable and ALARP, as confirmed with consensus at the hazard workshop and SoCGs with operators and regulators.
REP3-070.28	2.27 The Applicant has referred to Marine Navigation Engagement Forum ("MNEF"), in response to MWL and WEL's requests for direct engagement on a number of issues.	The Applicant notes this response.
REP3-070.29	2.28 MWL and WEL welcomes engagement via the MNEF. However, they consider that the MNEF as presently proposed and operated does not adequately address the matters which on which they seek engagement. MWL and WEL seek a formal commitment being consulted directly on any plans relating to Project vessel movements (including routes used and passing distance from their assets) and emergency response	As detailed by the Applicant within its response to Written Representations (REP2-005), the Applicant welcomes ongoing engagement to ensure navigational safety is maintained in the eastern Irish Sea, including with other offshore developers. Within its response to REP1-064.12, the Applicant confirms it will engage specifically with the relevant Ørsted IPs on applicable Plans which would include the Vessel Traffic Management Plan (VTMP), Emergency Response and Cooperation Plan (ERCOP), Marine Pollution Contingency Plan and others.

Reference	Ørsted IP's submission	Applicant's response
	planning (search and rescue and marine pollution). It is not clear that the MMO, Trinity House, MCA or UKHO would consider MWL and WEL as part of the plans referred to by the Applicant. Therefore, MWL and WEL seek direct engagement on post-consent plans, in particular the Vessel Traffic Management Plan. We suggest that this could be secured via a provision in the Vessel Traffic Management Plan.	These Plans would be developed and approved by the MMO in consultation with the MCA who are the navigational authority for the study area and would need to take account of any impacts on navigational safety together with any other relevant assets including those of the Ørsted IPs. Given that these plans are likely to be of relevance to other marine operators and stakeholders, the Applicant maintains that the MNEF is the most suitable forum for progressing discussion and agreement. An MNEF is not required by guidance and has not been routinely used by other UK offshore wind projects to date. Due to the number of stakeholders within the Irish Sea, the Applicant considers it is the most effective means for continued engagement. If necessary, specific concerns or queries can be addressed via individual stakeholder engagement as required. The Outline Vessel Traffic Management Plan (REP2-017) notes in Section 1.6.2.1 that "*Consultation will be undertaken with the following stakeholders and groups of stakeholders in the development of the VTMP… Existing users of the relevant sea area to ensure that the VTMP addresses potential and actual consultee vessel interactions with project vessels using relevant sea area*." This would include Ørsted IPs as well as the operators of other adjacent developments. Therefore, the Applicant does not consider it either necessary or appropriate for Ørsted IPs to be cited as a formal consultee in the DCO as part of the plan approval process. The Applicant will ensure that Ørsted IPs have copies of all relevant plans which will be operationally useful or support navigational safety in the eastern Irish Sea (such as the VTMP/ERCoP) following sign-off from MCA/MMO. At this stage decisions regarding port locations for construction and operations and maintenance are ongoing and detailed vessel transit routes (passage plans) are still to be confirmed. The Applicant is therefore not in a position to comment on the potential extent to which the Ørsted IPs may or may not be affected. The Applicant considers that securing engagement as a specific commitment within the DCO is neither necessary nor justified.
REP3-070.30	2.29 The Applicant makes a number of references to a hazard workshop which took place in September 2023, and notes concerns related to MWL and WEL's assets could have been raised at that stage. We note that insufficient information was made available regarding the concerns MWL and WEL have raised in this examination to be identified and discussed at this workshop.	The Applicant notes that representatives of the Ørsted IPs attended the hazard workshop held by the Applicant in September 2023. All attendees were provided with a detailed pre-read pack (72 slides) prior to the workshop which contained the following information as well as a copy of the draft risk assessment: • A description of the Projects • Summary of PEIR findings • Detailed description of post-PEIR boundary revisions. • Detailed vessel traffic analysis • Modelling results • Full bridge simulations findings • Methodology.

Reference	Ørsted IP's submission	Applicant's response
		• Description and draft results of key hazards • Isle of Man Offshore Wind Farm NRA Addendum results. Other stakeholders in attendance at the workshop, including regulators, oil and gas operators, ferry operators, fishing representatives and others were able to form a view on the impact of the Morgan Generation Assets on their interests as part of, or following, the workshop. The Applicant did not receive any requests for further information from the Ørsted IPs in the 14 month period following the workshop up until Deadline 3 and notes that the full NRA has been available on the Planning Inspectorate's website since May 2024. The Applicant considers, as demonstrated through Statements of Common Ground with the MCA (REP2-024), Trinity House (REP3-030), UK Chamber of Shipping (REP3-025), Stena Line (REP3-029) and Isle of Man Steam Packet Company (REP3-026), that the safety of transiting vessels in typical conditions between the Morgan Array Area and Ørsted IP assets has been demonstrated to be Tolerable and ALARP.

3 REFERENCES

MacArthur Green (2019a) Norfolk Vanguard Offshore Wind Farm. Offshore Ornithology: Precaution in ornithological assessment for offshore wind farms [Online]. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-003087-ExA%3B%20AS%3B%2010.D8.8_Precaution%20in%20ornithological%20assessment%20for%20offshore%20wind%20farms.pdf (Accessed December 2024).