

# MONA OFFSHORE WIND PROJECT

## Offshore Ornithology Final Position Paper

NRW MLT Application Reference: ORML2429T

Document Reference: S\_D7\_6

Document Number: MOCNS-J3303-RPS-10537

January 2025

F01



Image of an offshore wind farm

MONA OFFSHORE WIND PROJECT

Document status					
Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	Submission at D7	RPS	Mona Offshore Wind Ltd	Mona Offshore Wind Ltd	14 Jan 2025
<div> <div>Prepared by:</div> <div>RPS</div> </div> <div> <div>Prepared for:</div> <div>Mona Offshore Wind Ltd.</div> </div>					

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## MONA OFFSHORE WIND PROJECT

### Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Appropriate Assessment	A step-wise procedure undertaken in accordance with Article 6(3) of the Habitats Directive, to determine the implications of a plan or project on a European site in view of the site's conservation objectives, where the plan or project is not directly connected with or necessary to the management of a European site but likely to have a significant effect thereon, either individually or in-combination with other plans or projects.
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 Mona Offshore Wind Project.
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.

### Acronyms

Acronym	Description
AEol	Adverse Effect on Integrity
CEA	Cumulative Effects Assessment
DCO	Development Consent Order
DEP	Dudgeon Extension Project
EIA	Environmental Impact Assessment
GBBG	Great black-backed gull
HRA	Habitats Regulations Assessment
IPs	Interested Parties
ISAA	Information to support the Appropriate Assessment
JNCC	Joint Nature Conservation Committee
LCI	Lower confidence interval
NRW (A)	Natural Resources Wales (Advisory)
PEIR	Preliminary Environmental Information Report
PVA	Population Viability Analysis
SEP	Sheringham Shoal Extension Project
SNCB	Statutory Nature Conservation Bodies
SoCG	Statement of Common Ground
SoS	Secretary of State
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

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Acronym	Description
UCI	Upper confidence interval

## Units

Unit	Description
km	Kilometres
%	Percentage

# 1 OFFSHORE ORNITHOLOGY FINAL POSITION PAPER

## 1.1 Summary

1.1.1.1 The Applicant is pleased that progress has been made to clarify and resolve concerns raised by interested parties during the Mona Offshore Wind Project Examination. In order to draw all the application and examination materials for offshore ornithology together, the Applicant has undertaken a final update of Volume 2 Chapter 5: Offshore Ornithology (F2.5 F04) and the HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (E1.3 F03). This document presents details on and the location of the final assessments presented within the Deadline 7 submissions.

## 1.2 Introduction

1.2.1.1 The Applicant has welcomed comments from all Interested Parties (IPs) through the consenting process, and in particular from Natural Resources Wales (Advisory) (NRW (A)) and the Joint Nature Conservation Committee's (JNCC) on the Applicant's offshore ornithology application documents and examination submissions and is pleased that progress has been made to clarify and resolve the concerns raised. The Applicant notes and welcomes that a number of matters identified in the Applicant's Summary of Principal Offshore Ornithological Matters (REP5-072) at Deadline 5 and Update on Offshore Ornithology Principal Matters (REP6-098) at Deadline 6 are now agreed between the Applicant and NRW (A) and the JNCC. The final Statements of Common Ground (SoCG) between the Applicant and the JNCC (S\_D1\_15 F03) submitted at Deadline 7 confirms that all matters are now 'agreed' or 'not agreed but not material'. This is also the case in the final SoCG between the Applicant and NRW (A) – Offshore (S\_D1\_12 F03) submitted at Deadline 7.

1.2.1.2 The Applicant acknowledges that a high volume of often complex numeric material for offshore ornithology has been submitted into Examination. As set out in the Update on Offshore Ornithology Principal Matters (REP6-098) submitted at Deadline 6, in order to draw all the application and examination materials for offshore ornithology together and to address the remaining minor outstanding matters between the Applicant and IPs, the Applicant has undertaken a final update to Volume 2 Chapter 5: Offshore Ornithology (F2.5 F04) and the HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (E1.3 F03) to provide the relevant examination materials as a series of additional Annexes to the Environmental Statement chapter and ISAA at Deadline 7. The list of final offshore ornithology documents is presented in Table 1.1. These documents are included in Schedule 15 of the draft DCO (C1 F08) as part of the Environmental Statement for certification by the Secretary of State (SoS).

1.2.1.3 This final position statement provides concise clarity on the final offshore ornithology assessments within the Deadline 7 submissions.

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**Table 1.1: Offshore ornithology final documents.**

Final document name	Document Reference	Examination reference number	Deadline latest version submitted
HRA Stage 1 Screening Report	E1.4	E1.4 F03	Deadline 7
HRA Integrity Matrices	E1.5	REP2-014	Deadline 2
HRA Stage 2 Part Three: Special Protection Areas and Ramsar sites Assessments	E1.3	E1.3 F03	Deadline 7
Offshore ornithology ISAA Supporting Information	E1.3.1	E1.3.1 F01	Deadline 7
Assessment of proposed Ramsar Sites within the Isle of Man	E1.3.2	E1.3.2 F02	Deadline 7
Volume 2, Chapter 5: Offshore ornithology	F2.5	F2.5 F04	Deadline 7
Volume 6, Annex 5.1: Offshore Ornithology Baseline Characterisation Technical Report	F6.5.1	APP-091	Application
Volume 6, Annex 5.2: Offshore Ornithology Displacement Technical Report	F6.5.2	REP4-009	Deadline 4
Volume 6, Annex 5.3: Offshore ornithology collision risk modelling technical report	F6.5.3	REP2-020	Deadline 2
Volume 6, Annex 5.4: Offshore ornithology migratory bird Collision Risk Modelling technical report	F6.5.4	APP-094	Application
Volume 6, Annex 5.5: Offshore ornithology apportioning technical report	F6.5.5	F6.5.5 F03	Deadline 7
Volume 6, Annex 5.6: Offshore ornithology population viability analysis technical report	Superseded by E1.3.1 Offshore ornithology ISAA Supporting Information, F2.5 F04 Volume 2, Chapter 5: Offshore ornithology, and F.6.5.7 F03 Offshore Ornithology Assessment of Pen y Gogarth/Great Orme's Head Site of Special Scientific Interest Technical Report.		
Volume 6, Annex 5.7: Offshore Ornithology Assessment of Pen y Gogarth/Great Orme's Head Site of Special Scientific Interest Technical Report	F6.5.7	F6.5.7 F03	Deadline 7

## 1.2.2 Environmental Impact Assessment Deadline 7 submissions

1.2.2.1 The Applicant has submitted an updated version of Volume 2 Chapter 5: Offshore Ornithology (F2.5 F04) at Deadline 7, which supersedes all other versions of this document submitted at application and into Examination. The updated document includes the following key changes:

- Addresses remaining minor errata;
- Includes indicative gap-fill estimates for historic offshore wind projects from Offshore Ornithology Cumulative Effects Assessment and In-combination Gap-filling Historical Projects Technical Note (REP4-029) in the cumulative effects assessment (CEA) and estimates for the Barrow and North Hoyle offshore wind projects;
- Includes the Morgan Generation Assts, Morecambe Generation Assets and Llŷr 1 floating Wind Farm application numbers in the CEA;

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- Provides a revised cumulative assessment using the revised non-breeding season population of 17,742 from Furness (2015) for great black-backed gull as per the project alone assessment presented within the Offshore Ornithology Supporting Information in line with SNCB advice (REP3-059) at Deadline 3; and
- Includes an Annex to present the Offshore Ornithology Assessment of Pen y Gogarth & Great Orme's Head SSSI Technical Report (F6.5.7 F03).

1.2.2.2 These updates have not affected the overall conclusions of Volume 2 Chapter 5: Offshore Ornithology (F2.5 F04) that there are no predicted significant effects for the Mona Offshore Wind Project alone or cumulatively with plans and projects (offshore wind farm and tidal projects).

## 1.3 Habitats Regulations Assessment Deadline 7 submissions

1.3.1.1 The Applicant has submitted an updated version of the HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (E1.3 F03) at Deadline 7, which supersedes all previous versions submitted at application and into Examination. The updated documents include the following key updates:

- Addresses any remaining minor errata;
- The breeding season age class apportioning has been updated in the in-combination assessment to assume 100% adult birds where site-specific information is not available.
- Includes an Annex (E1.3.1) to the ISAA to provide a consistent assessment in accordance with SNCB (i.e. NRW (A) and the JNCC) advice alongside the Applicant's identified assessment scenario for all the relevant designated sites and features for consideration by the SoS;
- Includes indicative gap-fill estimates for historic offshore wind projects from Offshore Ornithology Cumulative Effects Assessment and In-combination Gap filling Historical Projects Technical Note (REP4-029) into the in-combination assessment and estimates for the Barrow and North Hoyle offshore wind projects;
- Includes an Annex to present an Assessment for proposed Ramsar sites within the Isle of Man (E1.3.2 F02) to allow the SoS to complete an Appropriate Assessment on these sites if they determine one is required; and
- Includes the Morgan Generation Assts, Morecambe Generation Assets and Llŷr 1 floating Wind Farm application numbers in the in-combination assessments.
- Inclusion of breeding season impacts for razorbill for the three SPAs showing connectivity to the Mona Offshore Wind Project (Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer SPA, Cape Wrath SPA and Handa SPA) in the offshore ornithology ISAA supporting information Annex (E1.3.1).

1.3.1.2 These updates have not affected the overall conclusions of the HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (E1.3 F03) that there is no potential for adverse effects on site integrity for the Mona Offshore Wind Project alone or in-combination with other projects and plans.

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### 1.4 Assessment scenarios considered

- 1.4.1.1 Table 1.2 sets out the offshore ornithology species and impacts considered for the Mona Offshore Wind Project EIA and HRA and the document in which the relevant assessments can be found. The Applicant hopes that this will aid stakeholders, future projects and the SoS in locating the different assessments undertaken for the Mona Offshore Wind Project.
- 1.4.1.2 Multiple assessment scenarios have been presented within the EIA and HRA documents which align with the Applicant's approach and/or the SNCB's (i.e. NRW (A) and the JNCC) advised approach. Table 1.2 is split into each species considered, the impact (displacement or collision risk), impact scenario and where this impact scenario has been assessed within the Deadline 7 submissions.
- 1.4.1.3 The main Deadline 7 submission for the EIA is Volume 2, Chapter 5: Offshore Ornithology (F2.5 F04), which presents the EIA scale assessments. The EIA scale assessments follow both the Applicant's and the SNCB's advised impact scenarios for all species.
- 1.4.1.4 The main documents for the HRA are the HRA Stage 1 Screening Report (E1.4 F03), HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (E1.3 F03) and HRA Stage 2 ISAA Part Three Annex 1.3.1 Offshore Ornithology ISAA Supporting Information (E1.3.1). The HRA Stage 1 Screening Report (E1.4 F03) presents the Applicant's approach to screening of LSE, which uses single point estimates identified by the Applicant based on a review of best scientific evidence. The HRA Stage 2 ISAA Part Three: SPAs and Ramsar sites Assessments (E1.3 F03) presents the Applicant's ISAA, which again considers single point estimates in line with the HRA Stage 1 Screening Report (E1.4 F03). Annex 1.3.1 Offshore Ornithology ISAA Supporting Information (E1.3.1) presents predicted impacts for a range of scenarios using the SNCB's advised parameters for displacement and collision estimates, recognising that, in some instances (e.g. for the assessment of displacement impacts to black-legged kittiwake) SNCB advice differs. The Applicant has provided a screening section within HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) for the project alone and, where required, an in-combination assessment.
- 1.4.1.5 The Applicant would like to reiterate that the Applicant's and the SNCB's approach to the EIA scale assessment is largely aligned, and with the exception of the great black-backed gull CEA (at the EIA scale) and black-legged kittiwake from the Pen y Gogarth & Great Orme's Head SSSI for the project alone and cumulatively, agreement has been reached on the Applicant's conclusions of no significant impact from the Mona Offshore Wind Project alone and cumulatively. As NRW and the JNCC are content that proportionate mitigation has been provided (through commitments in relation to air draught height), it is agreed that differing views on the conclusions for great-blackbacked gull and black-legged kittiwake from the Pen y Gogarth & Great Orme's Head SSSI are not material. These agreements are reflected in the final SoCGs (S\_D1\_12 F03 and S\_D1\_15 F03, respectively) submitted at Deadline 7.
- 1.4.1.6 Whilst the Applicant and the SNCBs have differing views on the assessment scenarios which should be considered within the HRA (e.g. single point estimates versus range-based approach), it has been demonstrated that irrespective of the scenario considered, AEoI for the Mona Offshore Wind Project-alone and in-combination with other plans and projects can be ruled out

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beyond reasonable scientific doubt, including in respect to the Grassholm SPA. Both NRW (A) and the JNCC have confirmed they are in agreement with these conclusions in the final SoCGs (S\_D1\_12 F03 and S\_D1\_15 F03, respectively) submitted at Deadline 7.

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**Table 1.2: Location of species-specific assessments with the Deadline 7 offshore ornithology submissions.**

Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
Black-legged kittiwake	Displacement	30-70% displacement and 1-10% mortality – the range of displacement and mortality rates advised by the JNCC <sup>1</sup> .	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.2)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.1) <b>In-combination</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
		50% displacement and 1% mortality - the Applicant's approach (see paragraphs 5.7.2.25 to 5.7.2.30 of Volume 2, Chapter 5: Offshore ornithology (F2.5 F04).	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.2)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.4) and HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.3) <b>In-combination</b> - HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.4)
		30% displacement and 3% mortality – the upper end of NatureScot's advice used within the in-combination PVAs.	Not presented within the EIA.	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.1) <b>In-combination</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
	Collision Risk	Mean collision estimate (using 99.28 avoidance rate) - species group	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (section A.1.1) and HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.3) <b>In-combination</b> - HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.4)
		Mean (Lower Confidence Interval (LCI) to Upper Confidence Interval (UCI)) collision estimate (using 99.28 avoidance rate) – species group	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3) <b>Cumulatively</b> – Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone-</b> HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination-</b> HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
		Mean collision estimate (Using 99.79 avoidance rate) – species-specific	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5.11) <b>Cumulatively –</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5; Table 5-59)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.1.1) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination –</b> HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.3.2)
		Mean (LCI to UCI) collision estimate (using 99.79 avoidance rate) – species-specific	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively –</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5; Table 5-59)	Not presented as species-specific avoidance rate not supported by the SNCBs.
Common guillemot	Displacement	30-70% displacement and 1-10% mortality – the range of displacement and mortality rates advised by NRW (A) and the JNCC.	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.9.2)	<b>Project alone-</b> HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.1) <b>In-combination -</b> HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
		50% displacement and 1% mortality - the Applicant's approach (see paragraphs 1.7.2.14 to 1.7.2.20 of Volume 2, Chapter 5: Offshore ornithology (F2.5 F04).	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.9.2)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.1) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination -</b> The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
		70% displacement and 2% mortality – scenario adopted within the SoS' HRAs on projects within the English North Sea (e.g. Hornsea Two/Three/Four, East Anglia One North, East Anglia Two, Norfolk Boreas, Norfolk Vanguard, Sheringham Shoal and Dudgeon Extension Projects (SEP and DEP).	Not presented within the EIA.	<b>Project alone</b> – HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3) <b>In-combination</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3).
Northern gannet	Displacement	60-80% displacement and 1-10% mortality – the range of displacement and mortality rates advised by NRW (A) and the JNCC.	<b>Project alone</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.7.2) <b>Cumulatively</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.9.2)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.1) <b>In-combination</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
		70% displacement and 1% mortality - the Applicant's approach (see paragraphs 1.7.2.21 to 1.7.2.24 of Volume 2, Chapter 5: Offshore ornithology (F2.5 F04).	<b>Project alone</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.7.2) <b>Cumulatively</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 1.9.2)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.3) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
	Collision Risk (without 70% macro-avoidance)	Mean collision estimate (using 99.28 avoidance rate)	<b>Project alone</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.3) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
		Mean (LCI to UCI) collision estimate (using 99.28 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> - The impact of collision was only considered for the project alone <b>with</b> the 70% macro-avoidance. <b>In-combination</b> – Assessed as combined collision and displacement in HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
	Collision Risk (with 70% macro-avoidance)	Mean collision estimate (using 99.28 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively</b> - Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (Table 5-44)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.3) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> – The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
		Mean (LCI to UCI) collision estimate (using 99.28 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (Table 5-44).	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
Herring gull	Collision Risk	Mean collision estimate (using 99.39 avoidance rates) – species group 'large gull'	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.5) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
		Mean (LCI to UCI) collision estimate (using 99.39 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
	Collision Risk	Mean collision risk (using 99.52 avoidance rate) – species specific	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone<sup>2</sup></b> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.5) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
		Mean (LCI to UCI) collision estimate (using 99.52 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
Great black-backed gull	Collision Risk	Mean collision risk (using 99.39 avoidance rate) – species group 'large gull'	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone<sup>2</sup></b> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.7) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.4 and 1.6.4)
		Mean (LCI and UC) collision estimate (using 99.39 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination</b> - HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.4 and 1.6.4)

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
Lesser black-backed gull	Collision Risk	Mean collision estimate (using 99.91 avoidance rate) – species specific	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.7) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.4 and 1.6.4)
		Mean (LCI to UCI) collision estimate (using 99.91 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2). <b>In-combination</b> - HRA Stage 2 ISAA Part Three (E1.3 F03) (section 1.5.4 and 1.6.4)
	Collision Risk	Mean collision risk (using 99.39 avoidance rate) – species group 'large gull'	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> <sup>2</sup> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.6) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
		Mean (LCI to UCI) collision estimate (using 99.39 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
	Collisions Risk	Mean collision risk (using 99.54 avoidance rate) – species specific	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone-</b> HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.6) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
		Mean (LCI to UCI) collision estimate (using 99.54 avoidance rate)	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.5) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.3)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.2) <b>In-combination</b> - The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
Manx shearwater	Displacement	30-70% displacement and 1-10% mortality – the range of displacement and mortality rates advised by NRW (A) and the JNCC.	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.2)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.1) <b>In-combination-</b> HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
		50% displacement and 1% mortality - the Applicant's approach (see paragraphs 1.7.2.14 to 1.7.2.20 of Volume 2, Chapter 5: Offshore ornithology (F2.5 F04).	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.2)	<b>Project alone<sup>2</sup></b> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.8) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination-</b> The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.
Razorbill	Displacement	30-70% displacement and 1-10% mortality – the range of displacement and mortality rates advised by NRW (A) and the JNCC.	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.2)	<b>Project alone</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.1) <b>In-combination-</b> HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)
		50% displacement and 1% mortality - the Applicant's approach (see paragraphs 1.7.2.14 to 1.7.2.20 of Volume 2, Chapter 5: Offshore ornithology (F2.5 F04).	<b>Project alone-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.7.2) <b>Cumulatively-</b> Volume 2, Chapter 5: Offshore ornithology (F2.5 F04) (section 5.9.2)	<b>Project alone<sup>2</sup></b> - HRA Stage 1 Screening Report (E1.4 F03) (Section A.2.2) and HRA Stage 2 ISAA Part Three (E1.3 F03) (Section 1.5.3) <b>In-combination-</b> The predicted project alone impact did not exceed the threshold (as agreed with the SNCBs) for requiring an in-combination assessment.

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Species	Impact	Impact scenario	Where assessed (EIA)	Where assessed (HRA)
		70% displacement and 2% mortality – used within the SoS' HRAs on projects within the English North Sea (e.g. Hornsea Two/Three/Four, East Anglia One North, East Anglia Two, Norfolk Boreas, Norfolk Vanguard, SEP and DEP.	Not presented within the EIA	<b>Project alone</b> – HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3) <b>In-combination</b> - HRA Stage 2 ISAA Part Three Annex 1.3.1 (E1.3.1) (section 1.4.3)

<sup>1</sup> The Applicant highlights that the JNCC was the only SNCB involved in the Expert Working Groups for the Mona Offshore Wind Project that requested the Applicant provide a displacement assessment for black-legged kittiwake. Both NRW (A) and Natural England have stated there is insufficient evidence to undertake a displacement assessment for black-legged kittiwake (See D3.1 of Technical Engagement Plan Appendices - Part 1 (A to E) APP-042).

<sup>2</sup> Information is in the HRA Stage 1 screening report (E1.4 F03) for all relevant sites and features considered and in the Stage 2 ISAA (E1.3 F03) or Offshore ornithology ISAA supporting information annex (E1.3.1) where the site and feature have been taken forward for further consideration.

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### 1.5 Differences from the Morgan Generation Assets

#### 1.5.1 Overview

1.5.1.1 Both the Morgan Offshore Wind Project: Generation Assets (the ‘Morgan Generation Assets’) and the Mona Offshore Wind Project have used available published data from project-specific documentation in the cumulative and in-combination assessments presented in their respective applications. There are, however, some differences between the assessments which relate to the use of the impact estimates and associated data from documentation.

1.5.1.2 A collaborative exercise was undertaken by the Morgan Generation Assets and the Mona Offshore Wind Project to align the population estimates and predicted impacts from other projects used in both applications. The numbers used, therefore, broadly align between the two projects for most species. However, there are differences for black-legged kittiwake in relation to how displacement impacts are treated, which are explained below, and differences resulting from the geographical location of the sites within differing national boundaries; Mona, Wales and Morgan, England.

1.5.1.3 Each SNCB has its own area of work geographically, and there can be a difference of approach by those bodies in advising on projects not within their core jurisdiction.

- NRW – Welsh waters remit to 12km;
- Natural England – English Waters remit to 12km;
- Nature Scot (formerly SNH) – Scottish waters remit to 12km; and
- JNCC – UK waters remit, but do not specifically comment in relation to Scottish projects

In a transboundary capacity all bodies can advise within each other’s jurisdiction.

#### 1.5.2 Difference in relation to black-legged kittiwake

1.5.2.1 An assessment of displacement impacts has not been required for kittiwake by the vast majority of other projects considered in the cumulative and in-combination assessment, as Natural England and NRW (A) do not advise that a displacement assessment is required for this species. Furthermore, for this species, the different offshore ornithology consultants working on the Morgan Generation Assets and Mona Offshore Wind Project have used differing abundance estimates from project-specific documentation, where there is a degree of variation within the submitted documents of other projects (for example, different survey areas, different bio-seasons and often a lack of monthly breakdown of impacts).

1.5.2.2 The kittiwake numbers selected and used in the CEAs for the Mona Offshore Wind Project and Morgan Generation Assets were extracted from project-specific documentation for each of the projects considered in the cumulative assessments required. However, how each project treated the data during their own assessment differs. As a result, there are differences in the population estimates used for kittiwake for other projects between the Morgan Generation Assets and the Mona Offshore Wind Project due to data interpretation of project-specific documentation. It should also be noted that application documents and

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associated documentation for some previously consented projects are often no longer in the public domain and are therefore not always accessible.

- 1.5.2.3 Whilst the exact processes applied by each project may differ, none of the resulting population estimates that have been incorporated into the assessments are incorrect, rather they provide a different interpretation of the likely impact from the project under consideration.

### 1.5.3 Implications for the cumulative and in-combination assessments

- 1.5.3.1 The differences between the input values have not made a difference to the conclusions of the cumulative or in-combination assessments undertaken for the Morgan Generation Assets and Mona Offshore Wind Project. All cumulative effects assessment conclusions are, in Environmental Impact Assessment terms, not significant (negligible or minor) for both projects. Similarly, a conclusion of no Adverse Effect on Integrity (AEoI) in-combination with other plans and projects has been reached for all sites and features considered in the assessments for the Morgan Generation Assets and the Mona Offshore Wind Project. Thus, any differences in the abundance estimates between the two projects are not considered to materially alter the assessment outcomes. For example, despite differences between the annual abundance of black-legged kittiwake for the White Cross project used in the Mona (annual abundance of 914) and Morgan applications (annual abundance of 553) for cumulative impact during operation, the conclusion of the cumulative assessment concluded of minor adverse, not significant in EIA terms.

- 1.5.3.2 NRW (A) has welcomed that the Applicant has undertaken an alignment task (i.e. a review of the data used in the Mona Offshore Wind Project and Morgan Generation Project CEAs to ensure numbers used for the other projects are as consistent as possible) on CEA abundances/impacts used between the Mona Offshore Wind Project and Morgan Generation Assets (see NRW Deadline 6 Submission (REP6-137)). NRW (A) has also welcomed the amendments the Applicant has made to the predicted collision impacts for herring gull for Burbo Bank Extension and for lesser black-backed gull for TwinHub as a result of this alignment (REP6-137).

### 1.5.4 Conclusion

- 1.5.4.1 The Applicant is pleased to have resolved the majority of concerns from the SNCBs during the Mona Offshore Wind Project Examination. The Applicant hopes that the consolidation exercise to bring the examination materials together will aid the SoS and future projects. The Applicant considers that it has provided all the necessary offshore ornithological EIA and HRA information for the Examining Authority to make its recommendation to the SoS for the Mona Offshore Wind Project and for the SoS to come to a decision with respect to granting the DCO.
- 1.5.4.2 Whilst the Applicant and the SNCBs have differing views on the assessment scenarios which should be considered within the HRA (e.g. single point estimates versus range-based approach), it has been demonstrated that irrespective of the scenario considered, AEoI for the Mona Offshore Wind Project-alone and in-combination with other plans and projects can be ruled out beyond reasonable scientific doubt. Both NRW (A) and the JNCC have confirmed they are in agreement with these conclusions as reflected in the final SoCGs (S\_D1\_12 F03 and S\_D1\_15 F03, respectively). Where the Applicant

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and NRW (A) and the JNCC disagree on the significance of impacts at the EIA scale, it is agreed to be 'not material' within both SoCGs as the SNCBs consider that the Applicant has provided appropriate mitigation.