Partners in UK offshore wind

MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Measures to minimise disturbance to marine mammals and rafting birds from transiting vessels

F01_F02_Tracked

~~Planning Inspectorate~~Application Reference~~ Number~~: EN010136

Document Number: MRCNS-J3303-RPS-10115

~~Document Reference: J15~~Document Reference: S_D5_23

~~APFP Regulations: 5(2)(q)~~

~~April 2024~~16 January 2025

F0~~1~~2

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	Application	RPS	Morgan Offshore Wind Ltd.	Morgan Offshore Wind Ltd.	April 2024
F02	Deadline 5	RPS	Morgan Offshore Wind Ltd.	Morgan Offshore Wind Ltd.	January 2025

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Prepared for:

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Environmental Management Plan (EMP)	The plan setting out the specific environmental requirements and procedures of the Morgan Generation Assets offshore construction activities.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Statement.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Morgan Offshore Wind Project: Generation Assets.
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 'deemed marine licences' as part of the DCO process.
Marine Pollution Contingency Plan (MPCP)	A plan that comprises a risk assessment of potential sources and likelihood of a pollution incident, pollution control measures and response procedures.
Mean High Water Springs (MHWS)	The average water level at high tide throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest.
Morgan Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, scour protection, cable protection and offshore substation platforms (OSPs) forming part of the Morgan Offshore Wind Project: Generation Assets 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).
Offshore Substation Platform (OSP)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Outline Marine Mammal Mitigation Protocol (MMMP)	The protocol setting out the appropriate measures to be adopted as part of the Morgan Generation Assets relevant to offshore activities that are likely to produce underwater sound levels capable of potentially causing injury to marine mammals.
Outline Underwater Sound Management Strategy	The strategy to reduce the magnitude of impacts from elevated underwater sound from the Morgan Generation Assets.

Term	Meaning
Scoping Opinion	Details of the technical and environmental information that the Planning Inspectorate considers should be contained in the EIA for Morgan Generation Assets.
Special Protection Area (SPA)	Protected areas for birds in the United Kingdom, designated under national legislation. SPAs are classified for rare and vulnerable species and for regularly occurring migratory birds.
The Planning Inspectorate	The agency responsible for operating the planning process for applications for development consent under the Planning Act 2008.
Underwater sound	Sound waves made underwater.
Vessel Traffic Management Plan	The plan setting out the appropriate measures to be adopted as part of the Morgan Generation Assets relevant to offshore activities to support safe and efficient vessel movements.
Wind turbines	The wind turbine generators, including the tower, nacelle and rotor.

Acronyms

Acronym	Description
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
DCO	Development Consent Order
DML	Deemed marine licence
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EWG	Expert Working Group
MHWS	Mean High Water Springs
MMMP	Marine Pollution Contingency Plan
MMO	Marine Management Organisation
MPCP	Marine Pollution Contingency Plan
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
OSP	Offshore Substation Platform
SPA	Special Protection Area
WiSe	The Wildlife Safe Scheme

Units

Unit	Description
km	Kilometres
km^2	Square kilometres
nm	Nautical miles

1 Measures to minimise disturbance to marine mammals and rafting birds from transiting vessels

1.1 Introduction

1.1.1 Introduction to the Morgan Generation Assets

1.1.1.1 Morgan Offshore Wind Limited (the Applicant), a joint venture of bp Alternative Energy Investments Ltd. (hereafter referred to as bp) and Energie Baden-Württemberg AG (hereafter referred to as EnBW) is developing the Morgan Offshore Wind Project: Generation Assets (hereafter Morgan Generation Assets), a proposed wind farm located in the east Irish Sea.

1.1.1.2 The Morgan Array Area (i.e. the area within which the offshore wind turbines (up to 96) will be located) is 280 km^2 in area and is located 22.22 km (12 nm) from the Isle of Man coastline, 37.13 km (20.1 nm) from the northwest coast of England and 58.5 km (31.6 nm) from the Welsh coastline (Anglesey) (when measured from Mean High Water Springs (MHWS)). The Morgan Array Area is located wholly within English offshore waters (beyond 12 nm from the English coast).

1.1.1.3 The Morgan Generation Assets will consist of up to 96 wind turbines and four Offshore Substation Platforms (OSPs). The final capacity of the Morgan Generation Assets will be determined based on available technology and constrained by the design envelope presented in Volume 1, Chapter 3: Project description of the Environmental Statement (Document Reference F1.3). The offshore infrastructure will also include up to 60 km of interconnector cables and up to 390 km of inter-array cables.

1.1.1.4 A marine licence is required before carrying out any licensable marine activities under the Marine and Coastal Access Act 2009. The marine licences for activities located in English offshore waters will be deemed under the Development Consent Order (DCO). The deemed marine licences (dMLs) will cover works related to the offshore wind farm generation infrastructure (wind turbines, OSPs, inter-array cables and interconnector cables).

1.1.1.5 The Applicant intends to commence construction of the Morgan Generation Assets from 2026 and for them to be fully operational by 2030 in order to help meet UK Government renewable energy targets. The Morgan Generation Assets will have a lifetime of 35 years.

1.1.2 Consultation

1.1.2.1 A summary of the key matters raised in the consultations to date, specifically relating to measures to minimise disturbance to marine mammals and birds by transiting vessels, can be found in Table 1.1.

Table 1.1: Summary of key matters raised during the consultation activities for the Morgan Generation Assets relating to measures to minimise disturbance to marine mammals and birds from transiting vessels.

Date	Consultee and type of response	Comment	Response to comment raised and/or where considered in this document
June 2022	Scoping Opinion The Planning Inspectorate	Vessel Traffic Management Plan, Environmental Management Plan and Marine Pollution Contingency Plan. The Scoping Report does not provide any detail on the specific measures to be included within these plans, noting they may evolve as the Environmental Impact Assessment (EIA) progresses. Where these measures are being relied upon for the assessments in the Environmental Statement they must be set out in the Environmental Statement in detail, including how they are to be secured (e.g. by DCO requirement).	Within the Environmental Statement, a number of measures (primary and tertiary) have been adopted as part of the Morgan Generation Assets to reduce the potential for impacts on offshore ornithology and marine mammals. These primary and tertiary measures are detailed in Table 4.17 of Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4) and Table 5.25 of Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5) and include Sections 1.2 and 1.3 of this document, the Outline underwater sound management strategy (Document Reference J13), Vessel traffic management plan (Document Reference J16), Outline marine mammal mitigation protocol (MMMP) (Document Reference J17) and post-consent plans (Offshore Environmental management plan (EMP) and Marine pollution contingency plan (MPCP)).

Date	Consultee and type of response	Comment	Response to comment raised and/or where considered in this document
June 2023	S42 – Consultation Log Natural England	Environmental Impact Assessment - Document Used: Chapter 5 EIA Methodology Vol.1, Ch.5 There is no information on anticipated vessel movements presented in offshore ornithology documentation. Natural England advises that some indication should be given as to where construction and maintenance vessels are likely to sail from as well as the likely increase in vessels activity. As a minimum, routes through the Liverpool Bay Special Protection Area (SPA) should follow best practice protocols (including adhering to existing routes wherever possible) to minimise disturbance to common scoter and red-throated diver. Subject to more information being provided, the need for seasonal restrictions may require consideration (01 November to 31 March inclusive). The existing level of the vessel traffic has not been presented therefore it is hard to establish whether 80 additional vessels would constitute a 'slight increase' or not. Considering that no quantitative assessment has been conducted, it cannot be concluded that there will not be high level of disturbance (especially given the large ranges of up to 21km for some vessels).	The number of vessel movements predicted to be associated with different phases of the Morgan Generation Assets are provided in section 5.5 of Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5). At this stage the port facilities to be used during different phases of the project are not known, which is not unexpected given the stage of the project and is consistent with many other offshore wind farm projects. Measures to minimise disturbance to marine mammals and rafting birds from vessel transits during construction and operations and maintenance activities are set out in sections 1.2 and 1.3.

Date	Consultee and type of response	Comment	Response to comment raised and/or where considered in this document
June 2023	S42 – Consultation Log Isle of Man Department of Infrastructure	MNH can provide the developer with access to this data upon request. In addition, MNH provides the following general comments: • The need for protection of the seabed with particular reference to areas of high conservation or carbon sequestration value, such as sea grass beds, Zostera marina, as highlighted in the Manx Marine Nature Reserves. • Protection of sensitive coastal areas such as Dhoon, Laxey and Maughold headlands which are noted for their nesting sea bird communities. • Protection of the seabed from scour and silt during the positioning of rock berms and trench digging and removing boulders. • Limiting noise pollution as cetaceans are regularly recorded between Ramsey and Laxey Bays. • Limiting disturbance of marine species and coastal sea birds during any boat trips from the Island to the arrays, as and where necessary.	Within the Environmental Statement, a number of measures (primary and tertiary) have been adopted as part of the Morgan Generation Assets to reduce the potential for impacts on benthic ecology, marine mammals and offshore ornithology. These primary and tertiary measures are detailed in Table 2.17 of Volume 2, Chapter 2 Benthic subtidal ecology of the Environmental Statement (Document Reference F2.2), Table 4.17 of Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4), Table 5.25 of Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5) and include Sections 1.2 and 1.3 of this document, and the Vessel traffic management plan (Document Reference J16) (Offshore environmental management plan (OEMP), Outline underwater sound management strategy (Document Reference J13), Vessel traffic management plan (Document Reference J16) and post-consent plans Offshore Construction method statement (CMS) and Outline marine mammal mitigation protocol (MMMP) (Document Reference J17).
June 2023	S42 – Consultation Log Natural Resources Wales (NRW)	67. Marine mammals. Key issues. Issue 6 requirement to asses injury and disturbance from vessel use. While NRW (A) can tentatively agree that it may be unrealistic to assess injury and disturbance from vessel use by presenting a sum of the impact ranges of all vessels within each offshore windfarm, no alternative method has been proposed as an alternative to gauge the impact. The Applicant should assess this impact pathway adequately.	Within the Environmental Statement, a number of measures (primary and tertiary) have been adopted as part of the Morgan Generation Assets to reduce the potential for impacts on marine mammals. These primary and tertiary measures are detailed in Table 4.17 of Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4) and include Sections 1.2 and 1.3 of this document, the Outline underwater sound management strategy (Document Reference J13), Vessel traffic management plan (Document Reference J16), Outline marine mammal mitigation protocol (MMMP) (Document Reference J17) and post-consent plan (Offshore environmental management plan (OEMP)).

Date	Consultee and type of response	Comment	Response to comment raised and/or where considered in this document
June 2023	Expert Working Group (EWG) Natural England Natural Resources Wales (NRW)	The Applicant's presentation stated that the HiDef report (Aerial Surveying Limited, 2023) confirmed that aggregations of common scoter and red-throated divers coincided with inshore areas of the Liverpool Bay SPA. Natural England raised potential disturbance impacts from vessel movements (e.g. Crew Transfer Vessels) within the SPA.	Within the Environmental Statement, a number of measures (primary and tertiary) have been adopted as part of the Morgan Generation Assets to reduce the potential for impacts on offshore ornithology. These primary and tertiary measures are detailed in Table 5.25 of Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5) and include the measures to minimise disturbance to marine mammals and rafting birds from vessel transits as set out in section 1.2 and section 1.3 of this document, the Vessel traffic management plan (Document Reference J16) and post-consent plans (Offshore EMP).

1.1.3 Introduction to the proposed measures

1.1.3.1 Vessel traffic associated with the Morgan Generation Assets has the potential to lead to an increase in vessel movements. An increase in vessel movements has the potential to displace birds (Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5) and could lead to an increase in interactions between marine mammals and vessels during offshore construction and operations and maintenance (Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4).

1.1.3.2 Vessel movements would be increased by up to 1,929 return trips during the construction phase and up to 719 return trips each year within the operations and maintenance phase of the Morgan Generation Assets.

1.1.3.3 The measures to minimise disturbance to marine mammals and rafting birds from transiting vessels described herein will be secured within the dMLs in the Draft DCO (Document Reference C1) and agreed pre-construction. By adopting these measures as part of Morgan Generation Assets, the effect of vessel disturbance on marine mammal and offshore ornithology receptors during construction and operations and maintenance has been assessed as having minor adverse significance, which is not significant in EIA terms.

1.1.3.4 The displacement impact of the vessel transit activities has been assessed qualitatively due to their local and temporary nature (see Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4) and Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Refence F2.5). Measures are proposed to minimise the risk of potential disturbance or damage to marine wildlife for vessels transiting to and from port and works areas during the construction and operation and maintenance phases of the Morgan Generation Assets. These measures will apply to vessels, both within and outside, the Liverpool Bay SPA within the Irish Sea, while transiting to the Morgan Array Area.

1.1.3.5 Several measures will apply to both marine mammals and offshore ornithology receptors (plus other marine wildlife; see section 1.2), while other measures will be specific to the reduction of risk of disturbance to rafting birds (section 1.3).

1.1.3.6 The measures to minimise disturbance to marine mammals and rafting birds, as described within this document, will be included as an appendix to the Offshore EMP. The marine licences for activities located in English offshore waters will be deemed under the DCO. The dMLs will cover works related to the offshore wind farm generation infrastructure (wind turbines, OSPs, inter-array cables and interconnector cables). The Offshore EMP is secured within the dMLs in the Draft DCO (Document Reference C1). The licence condition requires the submission of this document, as part of the Offshore EMP, to the Marine Management Organisation (MMO) for approval and subsequent compliance with the approved document.

1.1.3.7 Please see Table 1.2 for an overview of the vessel activities to which the measures described will apply.

Table 1.2: Overview of vessel transit activities that measures (fully or in part) apply to.

Activity	Measures applicable?
Vessels directly involved in installation and maintenance activities within the Morgan Array Area	No
Vessels transiting to and from the Morgan Array Area within and outside Liverpool Bay/Bae Lerpwl SPA (within the Irish Sea)	Yes

1.2 Proposed measures applicable to marine wildlife

1.2.1.1 The measures described in section 1.2 apply to all marine locations directly related to the construction and operations and maintenance activities, unless otherwise specified.

1.2.1.2 While the focus of this document is specific to measures that minimise disturbance to marine mammals and rafting birds, the actions proposed in this section will benefit marine wildlife in general, including basking sharks.

1.2.1.3 The Wildlife Safe (WiSe) Scheme (https://www.wisescheme.org/), is a UK national training scheme for minimising disturbance to marine life. Key principles from the WiSe Scheme (or other similar scheme) will be followed as a measure for reducing the disturbance of vessel transits on marine mammals and rafting birds visible at the water surface, or as otherwise agreed with the Statutory Nature Conservation Bodies (SNCB).

1.2.1.4 The WiSe Scheme is referenced and endorsed in other relevant codes of conduct for water users, including those produced by both Defra (Defra, 2023) and NatureScot (NatureScot, 2023). This measure will minimise the potential for any impact, where appropriate, during all authorised construction and operations and maintenance activities.

1.2.1.5 Key principles of the WiSe Scheme comprise of appropriate craft-handling around wild animals (such as avoiding sudden changes in speed and avoiding over revving of engines); codes of conduct; information on local and national laws relating to wildlife; and information on each of the species that are commonly encountered.

1.2.1.6 The site induction processes will incorporate the principles of the WiSe training scheme (or other similar scheme) to ensure that key personnel are aware of the need to follow these principles.

1.3 Proposed measures specific to rafting birds

1.3.1.1 The Morgan Generation Assets is located in the Irish Sea, near areas important to populations of common scoter and red-throated diver. The areas important to common scoter and red-throated diver closest to Morgan Generation Assets are within the geographical extent of the Liverpool Bay SPA. However, no part of the Morgan Generation Assets is within the Liverpool Bay SPA. The areas of highest density of common scoter occur off the English coast at Blackpool, Lancashire and off the Welsh coast between Colwyn Bay and the Dee Estuary. The areas of highest density of red-throated diver occur off the North Wales coast, especially offshore of Colwyn Bay and Llandulas, in the mouth of the Menai Strait, the Dee Estuary and off the coast at Formby (Volume 4, Annex 5.1: Offshore ornithology baseline characterisation of the Environmental Statement (Document Reference F4.5.1)). However, these high density areas of common scoter and red-throated diver do not overlap with the Morgan Generation Assets (HiDef Aerial Surveying Limited, 2023). Therefore, measures specific to minimising disturbance to rafting birds, as described below, will apply within Liverpool Bay SPA ~~only~~and out to 2km from the SPA boundary.

1.3.1.2 In addition to the measures outlined in section 1.2 measures applicable to rafting birds (specifically common scoter and red-throated diver as features of the Liverpool Bay SPA) will be applied during transit through Liverpool Bay SPA and out to 2km from the SPA boundary to and from port and works areas. Natural England has advised the Applicant to follow the Natural England's Best Practice Protocol for Vessels in Red-Throated Diver SPAs guidance, which it confirms it commits to and, specifically, the following both within the SPA and out to 2km from the SPA boundary:

- selecting routes that avoid known aggregations of birds;
- maintaining direct transit routes (to minimise transit distances through areas used by divers); and
- avoidance of over-revving of engines (to minimise noise disturbance).

~~1.3.1.2~~1.3.1.3 In addition, t~~T~~he following measure options will be discussed with the MMO through finalisation of the Offshore EMP:

- It is proposed that key vessels will use indicative vessel transit corridors, as detailed in the Outline vessel traffic management plan (Document Reference J16). Increased vessel traffic during construction, operations and maintenance, and decommissioning may potentially lead to disturbance and displacement of common scoter and red-throated diver species within Liverpool Bay SPA as assessed and stated in Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5). However, no significant effects are predicted due to this disturbance, as noted in section 1.1. Use of regular vessel transit routes which follow, where possible, established shipping routes within Liverpool Bay or charted approaches to ports and harbours will nonetheless act to restrict the spatial distribution of such disturbance and minimise any potential disturbance as far as possible
- All vessels associated with the Morgan Generation Assets will use an Automatic Identification System (AIS) which broadcasts the location of the vessel and is monitored by the Projects' Marine Co-ordination Centre.

1.4 Exclusions

1.4.1.1 Unplanned situations may arise where this plan will not apply. Such scenarios may include operational emergencies (though not exclusively), such as an unwell crew member, critical mechanical failure or inclement weather, where the most direct route back to port is required.

1.4.1.2 Nothing in this document will limit the key requirement for the safety of navigation and marine operations to be maintained, and for risks to be reduced to As Low As Reasonably Practicable (ALARP). It is noted that the Master of a vessel has the overriding authority and responsibility to make decisions and take actions they deem necessary for the health and safety interests of those on board, the environment, pollution prevention and the ship itself. The Vessel Master is responsible for safe navigation; all operational decisions on board vessels are subject to the Masters' discretion.

1.5 References

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Lawson, J., Kober, K., Win, I., Allcock, Z., Black, J. Reid, J.B., Way, L. & O'Brien, S.H. (2016). An assessment of the numbers and distribution of wintering waterbirds and seabirds in Liverpool Bay/Bae Lerpwl area of search. JNCC Report No 576. JNCC, Peterborough.

Natural England (2020) Natural England's Best Practice Protocol for Vessels in Red-Throated Diver SPAs.

NatureScot, 2023 Scottish Marine Wildlife Watching Code. Available: [redacted] Accessed January 2024.