

# MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

## Mitigation and monitoring schedule

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Image of an offshore wind farm

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

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## Contents

<b>1</b>	<b>MITIGATION AND MONITORING SCHEDULE.....</b>	<b>1</b>
1.1	Introduction .....	1
1.2	Physical processes .....	2
1.3	Benthic subtidal ecology .....	4
1.4	Fish and shellfish ecology .....	6
1.5	Marine mammals .....	10
1.6	Offshore ornithology .....	14
1.7	Commercial fisheries .....	15
1.8	Shipping and navigation .....	20
1.9	Marine archaeology and cultural heritage .....	25
1.10	Other sea users .....	28
1.11	Seascape, landscape and visual resources .....	30
1.12	Aviation and radar.....	31
1.13	Socio-economics .....	34

## Tables

Table 1.1:	Physical processes, mitigation, monitoring or enhancement measure .....	2
Table 1.2:	Benthic, subtidal ecology, mitigation, monitoring or enhancement measure .....	4
Table 1.3:	Fish and shellfish ecology, mitigation, monitoring or enhancement measure.....	6
Table 1.4:	Marine mammals mitigation, monitoring or enhancement measure .....	10
Table 1.5:	Offshore ornithology, mitigation, monitoring or enhancement measure.....	14
Table 1.6:	Commercial fisheries, mitigation, monitoring or enhancement measure .....	15
Table 1.7:	Shipping and navigation, mitigation, monitoring or enhancement measure.....	20
Table 1.8:	Marine archaeology and cultural heritage, mitigation, monitoring or enhancement measure.....	25
Table 1.9:	Other sea users, mitigation, monitoring or enhancement measure .....	28
Table 1.10:	Seascape, landscape and visual resources mitigation, monitoring or enhancement measure ..	30
Table 1.11:	Aviation and radar mitigation, monitoring or enhancement measure.....	31
Table 1.12:	Socio-economics mitigation, monitoring or enhancement measure.....	34

## MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

### Glossary

Term	Meaning
<b>Project terminology</b>	
Applicant	Morgan Offshore Wind Limited.
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.
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).
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.
<b>Outline/In-principle Plans</b>	
Draft Marine Mammal Mitigation Protocol	The protocol setting out the appropriate measures 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 or disturbance to marine mammals.
Marine Pollution Contingency Plan	A plan which outlines the risks, methods and procedures for dealing with any pollution incidents of the authorised project in relation to all activities carried out
Morgan Array Site Characterisation Report	A report representing the site characterisation for the marine disposal site for dredged material and drill arisings for the Morgan Array Area to support a disposal application within the Marine Licence(s).
Outline Employment and Skills Plan	A plan identifying opportunities for the employment and skills development of local people in relation to the Morgan Generation Assets.
Outline Environmental Management Plan	A plan outlining the proposed measures adopted as part of the Morgan Generation Assets to eliminate, offset or reduce adverse offshore environmental effects.
Outline Fisheries Liaison and Co-existence Plan	A plan outlining the approach to fisheries liaison during the construction, operations and maintenance, and decommissioning phases and setting out the strategy to facilitate co-existence between the Morgan Generation Assets and commercial fishing interests.
Offshore In-principle Monitoring Plan	A plan providing the framework detailing the proposed offshore monitoring commitments of the Morgan Generation Assets.
Outline Offshore Written Scheme of Investigation	The Written Scheme of Investigation (WSI) setting out the proposed approaches and commitments to archaeological survey and investigation to be undertaken post-consent offshore.
Relationship of Plans included within the DCO	An outline of how the Morgan Generation Assets offshore plans are related to each other and how they are secured within the Development Consent Order (DCO).

## MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Term	Meaning
Vessel Traffic Management Plan	A plan setting out the numbers, types and specifications of project related vessels and how vessel management will be coordinated.
<b>Other terminology</b>	
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Morgan Generation Assets.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
KIS-ORCA Service	The Kingfisher Information Service - Offshore Renewable & Cable Awareness project (KIS-ORCA) is a joint initiative between European Subsea Cables Association and RenewableUK and is being managed by the Kingfisher Information Service of Seafish.
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.
Underwater sound	Sound waves made underwater.
Wind turbines	The wind turbine generators, including the tower, nacelle and rotor.

## Acronyms

Acronym	Description
ADD	Acoustic deterrent devices
ANMP	Aids to Navigation Management Plan
AtNs	Aids to Navigation
CMS	Construction Method Statement
CFLO	Company Fisheries Liaison Officer
CSIP	Cable Specification and Installation Plan
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ErCOP	Emergency response cooperation plan
FLCP	Fisheries Liaison and Coexistence Plan
INNS	Invasive Non-Native Species
JNCC	Joint Nature Conservation Committee
LAT	Lowest Astronomical Tide
MCA	Maritime Coastguard Agency
MMO	Marine Management Organisation
MMOs	Marine Mammal Observers
MMMP	Marine mammal mitigation protocol

## MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Acronym	Description
MPCP	Marine Pollution Contingency Plan
OSP	Offshore Substation Platform
PAM	Passive acoustic monitoring
UKHO	UK Hydrographic Office
UWSMS	Underwater Sound Management Strategy
UXO	Unexploded Ordnance
VTMP	Vessel Traffic Management Plan

# 1 Mitigation and monitoring schedule

## 1.1 Introduction

1.1.1.1 This document presents the mitigation and monitoring commitments proposed in the Morgan Offshore Wind Project: Generation Assets (hereafter Morgan Generation Assets). The purpose of this document is to demonstrate how the Morgan Generation Assets has considered mitigation and monitoring commitments regarding environmental impacts identified through the Environmental Impact Assessment. This document clearly presents how relevant measures will be secured through the DCO and therefore will be carried out to effectively reduce environmental effects from the Morgan Generation Assets. Where some measures are aligned to industry best practice, this is noted within the means of securing the commitment. The mitigation and monitoring schedule lists all the mitigation and monitoring commitments proposed alongside the following supporting information:

- Where the measure is set out within the Environmental Statement
- Means of securing the commitment
- List of other relevant documents that should be read along side the mitigation and monitoring schedule.

1.1.1.2 Where mitigation, monitoring or enhancement measures have not been identified for a specific topic, no associated table has been presented within this document. Those topics with no mitigation, monitoring or enhancement commitments include:

- Climate change (Volume 2, Chapter 12)
- Human health (Volume 2, Chapter 14)
- Inter-related effects (Volume 2, Chapter 15).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.2 Physical processes**

1.2.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to physical processes is presented in Table 1.1.

**Table 1.1: Physical processes, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
1.1	Volume 2, Chapter 1: Physical processes of the Environmental Statement	Development and adherence to an Offshore Construction Method Statement (CMS), which will include details of scour protection management, to be used around offshore structures and foundations to reduce scour as much as is practical.	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
1.2	Volume 2, Chapter 1: Physical processes of the Environmental Statement	Development and adherence to an Offshore CMS including a Cable Specification and Installation Plan (CSIP) which will include cable burial where possible and cable protection.	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
1.3	Volume 2, Chapter 1: Physical processes of the Environmental Statement	No more than 5% reduction in water depth (referenced to Chart Datum) will occur without prior written approval from the Licensing Authority in consultation with the Maritime Coastguard Agency (MCA).	A CSIP as part of the Offshore CMS secured within the deemed marine licences of the draft DCO (document reference C1).
1.4	Volume 2, Chapter 1: Physical processes of the Environmental Statement	Development and adherence to an Offshore CMS which includes a CSIP which requires material arising from drilling and/or sandwave clearance to be deposited in close proximity to the works and within the licenced disposal area applied for (which is the Morgan Array Area).	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
1.5	Volume 2, Chapter 1: Physical processes of the Environmental Statement	Development of, and adherence to, an Offshore CMS which will include details to minimise sandwave clearance volumes and will be included within the CSIP.	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).



**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Monitoring</b>			
<b>Post-construction</b>			
1.6	Volume 2, Chapter 1: Physical processes of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Monitoring of the cables and their burial status. Overall, no effects which are significant in EIA terms have been identified therefore, in terms of physical processes, no specific monitoring is recommended beyond those related to undertaking maintenance activities outlined in the project description, Volume 1, Chapter 3: Project description of the Environmental Statement. These include routine inspections of inter-array and interconnector cables to ensure the cables are buried to an adequate depth and not exposed. We anticipate that geophysical surveys will be required as a condition of the marine licence(s).	Secured via the offshore in principle monitoring plan via a condition in the deemed marine licence within the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.3 Benthic subtidal ecology**

1.3.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to benthic, subtidal ecology is presented in Table 1.2.

**Table 1.2: Benthic, subtidal ecology, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
2.1	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement	Development of, and adherence to, an Offshore Construction method statement (CMS) including a Cable Specification and Installation Plan (CSIP) which will include cable burial where possible and cable protection.	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
2.2	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement	Development of, and adherence to, an Offshore CMS, which will include details of scour protection management, to be used around offshore structures and foundations to reduce scour as much as is practical.	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
2.3	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement	No more than 5% reduction in water depth (referenced to Chart Datum) will occur without prior written approval from the Licensing Authority in consultation with the MCA.	A CSIP as part of the Offshore CMS secured within the deemed marine licences of the draft DCO (document reference C1).
2.4	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement	Development of, and adherence to, an Offshore CMS which includes a 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).	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
2.5	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement	Development of, and adherence to, an Offshore CMS, which will include details to minimise sandwave clearance volumes and will be included within the CSIP.	The Offshore CMS is secured within the deemed marine licences of the draft DCO (document reference C1).
<b>Tertiary measures</b>			
2.6	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement	Development of, and adherence to, an Offshore EMP. This will include a Biosecurity Risk Assessment and an INNS Management Plan, including actions to minimise INNS.	The Offshore EMP is secured within the deemed marine licences of the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
2.7	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to, an Offshore EMP that will include a Marine Pollution Contingency Plan (MPCP) which will include planning for accidental spills, address all potential contaminant releases and include key emergency details.	An MPCP as part of the Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
<b>Monitoring</b>			
<b>Post-construction</b>			
2.8	Volume 2, Chapter 2: Benthic, subtidal ecology of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	<p>Monitoring of the cables and their burial status. Overall, no effects which are significant in EIA terms have been identified therefore, in terms of benthic subtidal ecology, no specific monitoring is required. Monitoring related to undertaking maintenance activities is outlined in the project description, Volume 1, Chapter 3: Project description of the Environmental Statement. This includes routine inspections of inter-array and interconnector cables to ensure the cables are buried to an adequate depth and not exposed.</p> <p>It is anticipated that geophysical surveys will be required as a condition of the marine licence. In addition, as outlined in the Offshore in-principle monitoring plan (document reference J11), DDV asset integrity surveys of the foundations will likely be undertaken at least every four years during the operations and maintenance phase using a remotely operated vehicle. Any footage available from these surveys will be reviewed by suitably experienced marine ecologists to determine whether the quality would allow for the identification of INNS. If so, the footage would be reviewed by suitably experienced marine ecologists in accordance with the requirements of the INNS Management Plan which will be included in the Offshore EMP</p>	Secured through relevant conditions in the dMLs within the DCO.

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.4 Fish and shellfish ecology**

1.4.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to fish and shellfish ecology is presented in Table 1.3.

**Table 1.3: Fish and shellfish ecology, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
3.1	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a Marine Mammal Mitigation Protocol (MMMP), based on the Outline MMMP (document reference J17) that requires implementation of an initiation stage of a piling soft start and ramp-up.	MMMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.2	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17)) which sets a maximum separation limit of 15 km for concurrent piling.	MMMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.3	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17)) which sets a minimum separation limit of 1.4 km for concurrent piling.	MMMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.4	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17)) which sets the limit on maximum hammer energy used during concurrent piling at 3,000 kJ and during the single event piling at 4,400 kJ.	MMMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
3.5	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline MMMP (document reference J17)	<p>Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17) that requires implementation of a mitigation hierarchy with regard to UXO clearance that follows:</p> <ul style="list-style-type: none"> <li>• Avoid UXO</li> <li>• Clear UXO with low order techniques</li> <li>• Clear UXO with high order techniques.</li> </ul> <p>Low order techniques or avoidance of confirmed UXO are not always possible and are dependent upon the individual situations surrounding each UXO.</p>	MMMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.6	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement	Development of, and adherence to, an Offshore CMS including CSIP which will include cable burial where possible and cable protection.	Offshore CMS secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.7	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement	Development of, and adherence to, an Offshore CMS which includes a CSIP which require material arising from drilling and/or sandwave clearance to be deposited in close proximity to the works.	Offshore CMS secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
<b>Tertiary measures</b>			
3.8	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline MMMP (document reference J17) Outline Underwater Sound Management Strategy (UWSMS) (document reference J13)	<p>Development of, and adherence to, a MMMP, which will be developed in accordance with the Outline MMMP (document reference J17) included as part of the application.</p> <p>The Outline MMMP (document reference J17) present appropriate mitigation for activities that could potentially lead to injurious effects on marine mammals including: piling, UXO clearance and some types of geophysical activities.</p> <p>Piling: for the purpose of developing the MMMP (document reference J17) as an annex of the UWSMS (document reference J13), a mitigation zone will be defined based on the maximum predicted injury range from the dual metric sound modelling for the maximum spatial scenario (pin piles) and across all marine mammal species. The</p>	MMMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
		<p>Outline MMMP (document reference J17) sets out the measures to apply in advance of and during piling activity including the use of:</p> <ul style="list-style-type: none"> <li>• Marine Mammal Observers (MMOs)</li> <li>• Passive Acoustic Monitoring (PAM)</li> <li>• Acoustic Deterrent Devices (ADD)</li> </ul> <p>Therefore following the latest JNCC guidance (JNCC, 2010a).</p> <p>UXO clearance: Measures including visual and acoustic monitoring, the use of an ADD and soft start charges will be applied to deter animals from the mitigation zone as defined by sound modelling for the largest possible UXO following the latest JNCC guidance (JNCC, 2010b).</p> <p>Geophysical surveys: Mitigation for injury during high resolution geophysical surveys using a sub-bottom profiler from a conventional vessel will involve the use of MMOs and PAM to ensure that the risk of injury over the defined mitigation zone is reduced in line with JNCC guidance (JNCC, 2017). Soft start is not possible for some SBP equipment but will be applied for other high resolution surveys where possible. Note also, some multi-beam surveys in shallow waters (&lt;200 m) are not subject to the development of and adherence requirements of mitigation.</p>	
3.9	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	<p>Development of, and adherence to, an Offshore Environmental Management Plan (EMP).</p> <p>The Offshore EMP will include development of a MPCP which will include planning for accidental spills, address all potential contaminant releases and include key emergency details.</p>	Offshore EMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.10	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement	The Offshore EMP will include actions to minimise INNS, including a biosecurity plan to limit spread and introduction of INNS.	Offshore EMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
3.11	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline Measures to Minimise Disturbance to Marine Mammals and Rafting Birds (document reference J15)	<p>Offshore EMP will be issued to all Project vessel operators, requiring them to:</p> <ul style="list-style-type: none"> <li>not deliberately approach basking sharks and other marine megafauna</li> <li>keep vessel speed to a minimum where deemed to be appropriate</li> <li>avoid abrupt changes in course or speed should basking sharks or other marine megafauna approach the vessel, where appropriate and possible taking into account all technical considerations.</li> </ul> <p>Codes of Conduct within the Outline Measures to Minimise Disturbance to Marine Mammals and Rafting Birds plan (document reference J15) will be adhered to at all times.</p>	Offshore EMP secured as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).
3.12	Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement Outline Underwater Sound Management Strategy (UWSMS) (document reference J13)	Development of, and adherence to, an Outline UWSMS (document reference J13) that includes consideration of Noise Abatement Systems (NAS) as part of mitigation options. A commitment to considering Noise Abatement Systems (NAS) as part of mitigation options in the Underwater sound management strategy, which will be developed in accordance with the Outline underwater sound management strategy (document reference J13), will be made as part of a stepped strategy post consent and following the mitigation hierarchy – avoid, reduce, mitigate.	UWSMS as a condition of the deemed marine licence(s) within the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.5 Marine mammals**

1.5.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to marine mammals is presented in Table 1.4.

**Table 1.4: Marine mammals mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
4.1	Volume 2, Chapter 4: Marine mammals of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a Marine Mammal Mitigation Protocol (MMMP) which will be developed in accordance with the Outline MMMP (document reference J17) that requires implementation of an initiation stage of a piling soft start and ramp-up.	MMMP secured in the deemed marine licences within the draft DCO (document reference C1).
4.2	Volume 2, Chapter 4: Marine mammals of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17) which sets a maximum separation limit of 15 km for concurrent piling.	MMMP secured in the deemed marine licences within the draft DCO (document reference C1).
4.3	Volume 2, Chapter 4: Marine mammals of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17) which sets a minimum separation limit of 1.4 km will be used for concurrent piling.	MMMP secured in the deemed marine licences within the draft DCO (document reference C1).
4.4	Volume 2, Chapter 4: Marine mammals of the Environmental Statement Outline MMMP (document reference J17)	Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17) which sets the limit on maximum hammer energy used during concurrent piling at 3,000 kJ and during the single event piling at 4,400 kJ.	MMMP secured in the deemed marine licences within the draft DCO (document reference C1).



**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
4.5	<p>Volume 2, Chapter 4: Marine mammals of the Environmental Statement</p> <p>Outline MMMP (document reference J17)</p> <p>Outline UWSMS (document reference J13)</p>	<p>Development of, and adherence to, a MMMP (to be developed in accordance with the Outline MMMP (document reference J17) that requires implementation of a mitigation hierarchy with regard to UXO clearance that follows:</p> <ul style="list-style-type: none"> <li>• Avoid UXO</li> <li>• Clear UXO with low order techniques</li> <li>• Clear UXO with high order techniques.</li> </ul> <p>Low order techniques or avoidance of confirmed UXO are not always possible and are dependent upon the individual situations surrounding each UXO. Inclusion of low order techniques has been considered as a clearance option.</p> <p>Where detonation of UXO using low order techniques occurs this is considered to be primary mitigation noting, however, that it is not possible to fully commit to this measure at this stage. A more detailed assessment of mitigation will be undertaken post-consent as further information becomes available to inform the Outline MMMP (document reference J17) included in the Outline UWSMS (document reference J13).</p>	<p>MMMP secured in the deemed marine licences within the draft DCO (document reference C1).</p>
<b>Tertiary measures</b>			
4.6	<p>Volume 2, Chapter 4: Marine mammals of the Environmental Statement</p> <p>Outline MMMP (document reference J17)</p> <p>Outline UWSMS (document reference J13)</p>	<p>Development of, and adherence to, an Outline MMMP (document reference J17), as an annex to the Outline Underwater sound management strategy (document reference J13) will be submitted alongside the Environmental Statement. The Outline MMMP will present appropriate mitigation for activities that could potentially lead to injurious effects on marine mammals including: piling, UXO clearance and some types of geophysical activities. The Outline MMMP will be developed on the basis of the most recent published statutory guidance and in consultation with key stakeholders.</p> <p>Piling: for the purpose of developing the MMMP (document reference J17), an annex to the underwater sound management strategy</p>	

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
		<p>(document reference J13), a mitigation zone will be defined based on the maximum predicted injury range from the dual metric sound modelling for the maximum spatial scenario (pin piles) and across all marine mammal species. The Outline MMMP sets out the measures to apply in advance of and during piling activity including the use of:</p> <ul style="list-style-type: none"> <li>• Marine Mammal Observers (MMOs)</li> <li>• Passive Acoustic Monitoring (PAM)</li> <li>• Acoustic Deterrent Devices (ADD)</li> </ul> <p>Therefore following the latest JNCC guidance (JNCC, 2010a).</p> <p><u>UXO clearance:</u> measures including visual and acoustic monitoring, the use of an ADD and soft start charges will be applied to deter animals from the mitigation zone as defined by sound modelling for the largest possible UXO following the latest JNCC guidance (JNCC, 2010b).</p> <p><u>Geophysical surveys:</u> mitigation for injury during high resolution geophysical surveys using a sub-surface sensor from a conventional vessel will involve the use of MMOs and PAM to ensure that the risk of injury over the defined mitigation zone is reduced in line with JNCC guidance (JNCC, 2017). Soft start is not possible for SBP equipment but will be applied for other high resolution surveys where possible. Note also, some multi-beam surveys in shallow waters (&lt;200 m) are not subject to the Development of and adherence requirements of mitigation.</p>	
4.7	Volume 2, Chapter 4: Marine mammals of the Environmental Statement Outline UWSMS (document reference J13)	Development of, and adherence to, an Underwater sound management strategy that includes consideration of Noise Abatement Systems (NAS) as part of mitigation options, which will be developed in accordance with the Outline underwater sound management strategy (document reference J13), will be made as part of a stepped strategy post consent and following the mitigation hierarchy - avoid, reduce, mitigate.	Underwater Sound Management Strategy secured in the deemed marine licences within the draft DCO (document reference C1).
4.8	Volume 2, Chapter 4: Marine mammals of the Environmental Statement	Development of, and adherence to, an Offshore Environmental Management Plan (EMP) with measures to minimise disturbance to	The measures to minimise disturbance to marine mammals and rafting birds from

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
		<p>marine mammals and rafting birds from transiting vessels, requiring them to:</p> <ul style="list-style-type: none"> <li>• Not deliberately approach marine mammals as a minimum</li> <li>• Avoid abrupt changes in course or speed should marine mammals approach the vessel to bow-ride, where appropriate and possible taking into account all technical considerations.</li> </ul> <p>The Offshore EMP will include a commitment that the site induction processes will incorporate the principles of the Wildlife Safe (WiSe) Scheme to ensure that key personnel are aware of the need to follow the WiSe Code of Conduct. The WiSe Scheme (<a href="https://www.wisescheme.org/">https://www.wisescheme.org/</a>), which is a UK national training scheme for minimising disturbance to marine life, key measures from the scheme will reduce 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 (SNCBs).</p>	<p>transiting vessels will be included within the Offshore EMP which is secured in the deemed marine licences within the draft DCO (document reference C1).</p>
4.9	Volume 2, Chapter 4: Marine mammals of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to an Offshore EMP that will include a MPCP which will include planning for accidental spills, address all potential contaminant releases and include key emergency details	An MPCP as part of the Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
4.10	Volume 2, Chapter 4: Marine mammals of the Environmental Statement	<p>Development of, and adherence to, a Decommissioning Plan in accordance with the Energy Act 2004.</p> <p>A Decommissioning Programme is required under the provisions of the Energy Act 2004 and this must be approved by the Secretary of State before works commence.</p>	Legal obligation of the Energy Act 2004 and secured within the draft DCO (document reference C1).

## 1.6 Offshore ornithology

1.6.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to offshore ornithology is presented in Table 1.5.

**Table 1.5: Offshore ornithology, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
5.1	Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement	The Applicant has committed to a minimum lower blade tip height (air draught) of 34 m above LAT.	To be secured within the draft DCO (document reference C1).
<b>Tertiary measures</b>			
5.2	Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement	Offshore EMP that will include measures to minimise disturbance to rafting birds from transiting vessels.	The Offshore EMP is secured within the deemed marine licences of the draft DCO (document reference C1).
5.3	Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to an Offshore EMP that will include a MPCP which will include planning for accidental spills, address all potential contaminant releases and include key emergency details.	An MPCP as part of the Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.7 Commercial fisheries**

1.7.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to commercial fisheries is presented in Table 1.6.

**Table 1.6: Commercial fisheries, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
6.1	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a CMS which includes a CSIP, the CSIP will incorporate the Cable Burial Risk Assessment (CBRA) where cable protection shall be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (e.g. smoother edges).	CSIP as part of the CMS secured within the deemed marine licences of the Draft DCO (document reference C1).
6.2	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, an offshore CMS which includes a CSIP where the time delay between sequential cable installation operations (e.g. cable-lay and post-lay burial), shall be minimised to as short as reasonably practicable.	CSIP as part of the CMS secured within the deemed marine licences of the Draft DCO (document reference C1).
6.3	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a Design Plan with infrastructure spacing at a minimum of 1,400 m apart.	Secured as a design parameter in requirement 2 of Schedule 2 of the Draft DCO (document reference C1) and within the deemed marine licences of the Draft DCO (document reference C1).
6.4	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a Design Plan with roughly north to south alignment of wind turbine rows and will include two lines of orientation for navigation and Search and Rescue (SAR) access.	The commitment is secured through the Outline Fisheries Liaison and Coexistence Plan (FLCP) (document reference: J10). The Design Plan and the FLCP are secured within the deemed marine licences of the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
6.5	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline FLCP (document reference J10)	Development of, and adherence to, a Design Plan which includes implementation of a Scallop Mitigation Zone over an area of core scallop grounds within the Morgan Array Area.	The commitment is secured through the Outline FLCP (document reference: J10). The Design Plan and the FLCP are secured within the deemed marine licences of the Draft DCO (document reference C1).
<b>Tertiary measures</b>			
6.6	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a FLCP, in accordance with the Outline FLCP that includes for investigating the establishment of a commercial fisheries working group.	The commitment is secured through the Outline FLCP (document reference: J10). The FLCP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.7	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline FLCP (document reference J10)	Development of, and adherence to, an Offshore EMP, which includes a FLCP, to include details of the appointment and responsibilities of a Company Fisheries Liaison Officer (CFLO).	The commitment is secured through the Outline FLCP (document reference: J10). The FLCP is secured within the deemed marine licences of the Draft DCO (document reference C1). Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.8	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a FLCP, in accordance with the Outline FLCP that includes for ongoing liaison with the fishing industry through the CFLO and Fisheries Industry Representative and adhere to good practice guidance with regards to fisheries liaison.	The commitment is secured through the Outline FLCP (document reference: J10). FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.9	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a FLCP, in accordance with the Outline FLCP that includes for the use of Offshore Fisheries Liaison Officers where required and appropriate.	The commitment is secured through the Outline FLCP (document reference: J10). FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
6.10	<p>Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement</p> <p>Outline Fisheries Liaison and Coexistence Plan (J10)</p> <p>Outline Offshore Operations and Maintenance Plan (document reference J9)</p>	<p>Notification of construction, maintenance and decommissioning activities will be issued via Notices to Mariners (NtMs), giving appropriate advance warning to fishing fleets.</p>	<p>Notifications are secured as a condition in the deemed marine licences in the Draft DCO (document reference C1).</p>
6.11	<p>Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement</p> <p>Outline Fisheries Liaison and Coexistence Plan (J10)</p> <p>Outline Offshore Operations and Maintenance Plan (document reference J9)</p>	<p>Timely and efficient distribution of NtMs.</p>	<p>Secured through a condition in the deemed marine licences (document reference C1) and through the Outline FLCP (document reference: J10).</p> <p>FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).</p>
6.12	<p>Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement</p> <p>Safety Zone Statement (document reference J5)</p> <p>Outline Fisheries Liaison and Coexistence Plan (J10)</p>	<p>Use of advisory clearance distances and safety zones during construction and periods of major maintenance.</p>	<p>The commitment to the use of advisory clearance distances and safety zones as set out in the Safety Zone Statement (document reference J5) is secured through the Outline FLCP (document reference J10).</p> <p>FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).</p> <p>An application for safety zones will be made under the Energy Act 2004.</p>
6.13	<p>Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement</p> <p>Outline Fisheries Liaison and Coexistence Plan (J10)</p>	<p>Development of, and adherence to, a FLCP, in accordance with the Outline FLCP that includes for the use of rolling advisory exclusion zones.</p>	<p>The commitment is secured through the Outline FLCP (document reference J10).</p> <p>FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).</p>

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
6.14	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to, an Aids to Navigation Management Plan (ANMP) to ensure adequate navigational markers (including lighting), in accordance with the most recent relevant industry guidance and agreed prior to commencement of offshore construction.	The ANMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.15	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement	Development of, and adherence to, a CMS, including CSIP that details cable protection management and scour protection management, to outline cable burial depth, cable protection and monitoring of inter array and interconnector cables to reduce snagging risk.  This will be informed by a Cable Burial Risk Assessment, which will include details on minimum target burial depths.	CSIP as part of the CMS is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.16	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, a FLCP, in accordance with the Outline FLCP that includes for annual reviews for the first five years of the operations and maintenance phase, to review Vessel Monitoring System (VMS) data and landings data to identify whether there are any changes to fishing activity within and around the Morgan Array Area and, where there is change, to discuss this with commercial fisheries stakeholders.	The commitment is secured through the Outline FLCP (document reference J10). FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.17	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Compliance with dropped objects procedures. All dropped objects must be reported to the Marine Management Organisation (MMO) using the Dropped Object Procedure Form.	Secured within the deemed marine licences of the Draft DCO (document reference C1).
6.18	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement	Development of, and adherence to, a Decommissioning Programme.	Decommissioning Programme secured through a requirement in the draft DCO (document reference C1).



**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
6.19	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to, an Offshore EMP, which includes an Marine Pollution Contingency Plan.	An MPCP as part of the Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.20	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	'As-laid' co-ordinates of the cable route shall be recorded and submitted to the UK Hydrographic Office (UKHO) and KIS-ORCA Service. 'As-laid' cables shall be marked on Admiralty Charts and fisherman's awareness charts (paper and electronic format).	The commitment is secured through the Outline FLCP (document reference J10). FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
6.21	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of, and adherence to, an Offshore EMP that includes a Fisheries liaison and co-existence plan (FLCP) that sets out use of guard vessels where required.	The commitment is secured through the Outline FLCP (document reference J10). FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).
<b>Monitoring</b>			
<b>Post-construction</b>			
6.22	Volume 2, Chapter 6: Commercial fisheries of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Preparation of an Offshore CMS post-consent with details of cable monitoring to reduce snagging risk.	Secured within the deemed marine licence(s) in the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.8 Shipping and navigation**

1.8.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to shipping and navigation is presented in Table 1.7

**Table 1.7: Shipping and navigation, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
7.1	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Development of, and adherence to, a Design Plan that will be prepared in accordance with the layout principles (including minimum infrastructure spacing of 1400m and commitment to two lines of orientation), which will be agreed with the MMO, in consultation with the MCA and Trinity House.	The Design Plan is secured within the deemed marine licences in the draft DCO (document reference C1).
7.2	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to, an ANMP to ensure adequate navigational markers (including lighting and a buoyed construction area), in accordance with the most recent relevant industry guidance as advised by Trinity House and MCA and agreed prior to commencement of offshore construction	The ANMP is secured within the deemed marine licences within the draft DCO (document reference C1).
7.3	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	The Applicant has committed to a minimum lower blade tip height (air draught clearance) of 34 m above LAT	Secured as a requirement of the draft DCO (document reference C1) and through a condition in the deemed marine licences within the draft DCO.
7.4	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline Fisheries Liaison and Coexistence Plan (J10)	Development of and adherence to an Offshore EMP that includes a FLCP	FLCP as part of an Offshore EMP is secured within the deemed marine licences of the Draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
7.5	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Development of, and adherence to, an Offshore CMS which includes a CSIP and details of cable monitoring to ensure under keel clearance (UKC) is maintained and no more than a 5% reduction in water depth (referenced to Chart Datum) will occur as a result of cable protection at any point over cables without prior written approval from the Licensing Authority	A CSIP as part of the CMS secured within the deemed marine licences within the draft DCO (document reference C1).
<b>Tertiary measures</b>			
7.6	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Notification of construction, maintenance and decommissioning activities through the use of Notice to Mariners (NtMs)	NtMs is secured within the deemed marine licences within the draft DCO (document reference C1).
7.7	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline Vessel Traffic Management Plan (document reference J16)	Development of, and adherence to, a Vessel Traffic Management Plan (VTMP), to ensure coordination of passage plans, setting out vessel standards, setting out vessel health and safety requirements	A VTMP secured within the deemed marine licences within the draft DCO (document reference C1). An outline of this plan has been submitted as part of the Application (Document reference J17).
7.8	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Site marking and charting on nautical charts including an appropriate chart note to facilitate safe passage planning around the Morgan Generation Assets	Secured within the deemed marine licences within the draft DCO (document reference C1).
7.9	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Use of advisory clearance distances (around cable installation vessels) and safety zones (OSP/WTG) during construction and periods of maintenance, as per the Safety Zone Statement	An application for safety zones will be made under the Energy Act 2004, as set out in the Safety Zone Statement (document reference J5).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
7.10	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline Vessel Traffic Management Plan (document reference J16)	Development of, and adherence to, a VTMP which requires co-ordination of Morgan Generation Assets vessels during construction and operations and maintenance by the Project Marine Co-ordination Centre. This includes a continuous watch by multi-channel Very High Frequency (VHF), including Digital Selective Calling	A VTMP secured within the deemed marine licences within the draft DCO (document reference C1). An outline of this plan has been submitted as part of the Application (Document reference J17).
7.11	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Development of, and adherence to, an Emergency Response and Cooperation Plan (ERCoP), which sets out details of periodic exercises to reduce the consequences of incidents as part of compliance with MGN654 “Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues” (or any equivalent guidance that replaces or supersedes it) and its annexes.	Offshore safety management is secured within the deemed marine licences within the draft DCO (document reference C1).
7.12	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to, an Offshore EMP, which includes an MPCP to minimise and manage the risk of marine pollution events	An MPCP as part of an Offshore EMP secured within the deemed marine licences within the draft DCO (document reference C1).
7.13	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Incident investigation and reporting. Risk assessments to be reviewed following incidents, and additional risk controls identified if appropriate to reduce the likelihood of recurrence. Lessons learnt will be disseminated to improve safety record of Morgan Generation Assets operations.	Incident reporting requirements and expectations including: <ul style="list-style-type: none"> <li>• MAIB (Merchant Shipping Act)</li> <li>• Health and Safety Executive (RIDDOR)</li> </ul> Harbour Authority under Port Marine Safety Code.
7.14	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Hydrographic surveys to reduce the risk of grounding or snagging of cables. MGN654 and its annexes requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager and the UKHO.	Secured within the deemed marine licences within the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
7.15	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Development of, and adherence to, an Offshore Construction Method Statement (CMS) and development and adherence to a Construction Programme (CP)	An Offshore CMS and CP secured within the deemed marine licences within the draft DCO (document reference C1).
7.16	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Personal Protective Equipment (PPE). To maintain the safety of those working at the Morgan Generation Assets, all personnel will wear the correct PPE suitable for the location and role at all times, as defined by the relevant Quality, Health, Safety and Environment documentation. This will include the use of Personal Locator Beacons.	Industry best practice.
7.17	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Inspection and maintenance programme	Industry best practice.
7.18	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Training and site inductions. To maintain the safety of those working at the Morgan Generation Assets, the Applicant is responsible for ensuring that all staff engaged on operations are competent to carry out the allocated work and have completed a site induction.	Industry best practice.
7.19	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Compliance with International, UK and Flag State Regulations inc. IMO conventions. To ensure navigational safety, compliance from all vessels associated with the proposed project with international maritime regulations as adopted by the relevant flag state such as Convention on the International Regulations for Preventing Collisions at Sea (IMO, 1972) and Safety of Life at Sea Convention (SOLAS) (IMO, 1974).	Statutory requirement.
7.20	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Continued engagement of the MNEF, post consent	Industry best practice. Secured through this Mitigation and Monitoring Schedule (document reference J6).
7.21	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement	Development of, and adherence to, a Navigation Monitoring Strategy setting out continuous vessel traffic monitoring during construction and immediate post construction monitoring to identify unanticipated project impacts to Maritime and Coastguard Agency (MCA) approval.	Navigation Monitoring Strategy secured within the deemed marine licences within the draft DCO (document reference C1).

**Monitoring**

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Construction</b>			
7.22	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Construction monitoring of marine traffic (by automatic identification system (AIS)) with a report submitted annually to MMO, MCA and Trinity House. The report will assess the extent to which the impacts predicted in the NRA are accurate to ensure adopted risk controls are fit for purpose.	Secured via a condition in the deemed marine licence(s) within the draft DCO (document reference C1).
7.23	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Preparation of and adherence to an CMS which includes details of periodic validation surveys of cable burial and protection to ensure specified requirements are met.	Secured via a condition in the deemed marine licence(s) within the draft DCO (document reference C1).
<b>Post-construction</b>			
7.24	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Preparation of and adherence to an ANMP which includes AtoN monitoring to ensure constant functionality through the lifetime of the Morgan Generation Assets. Trinity House to be informed of any defects.	Secured via a condition in the deemed marine licence(s) within the draft DCO (document reference C1).
7.25	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Post-construction monitoring of marine traffic (by AIS) with a report submitted annually to MMO, MCA and Trinity House. The report will assess the extent to which the impacts predicted in the NRA are accurate to ensure adopted risk controls are fit for purpose.	Secured via a condition in the deemed marine licence(s) within the draft DCO (document reference C1).
7.26	Volume 2, Chapter 7: Shipping and navigation of the Environmental Statement Outline in Principle Monitoring Plan (document reference J11)	Preparation of and adherence to an CMS which includes details of periodic validation surveys of cable burial and protection to ensure specified requirements are met.	Secured via a condition in the deemed marine licence(s) within the draft DCO (document reference C1).

## MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

### 1.9 Marine archaeology and cultural heritage

1.9.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to marine archaeology and cultural heritage is presented in Table 1.8.

**Table 1.8: Marine archaeology and cultural heritage, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
8.1	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to Archaeological Exclusion Zones (AEZs) around those sites identified as having high and medium archaeological potential as presented in the Offshore Historic Environment Plan (document reference B7) and the Outline Offshore WSI and PAD (document reference J14).  The Design Plan will include final wind turbine locations to avoid any AEZs identified in pre-construction site investigation surveys or micrositing requirements as set out in the Offshore WSI and PAD.	Outline Written Scheme of Investigation (WSI) and Protocol for Archaeological Discoveries (PAD) and the need for a Design Plan to be approved is secured within the deemed marine licence(s) of the draft DCO (document reference C1).
8.2	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to Temporary Archaeological Exclusion Zones (TAEZs) based on all available information including the stated positional accuracy, the recorded size of the target and the potential archaeological significance as presented in the Offshore Historic Environment Plan (document reference B7) and the Outline Offshore WSI and PAD (document reference J14).	Outline WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).
<b>Tertiary Measures</b>			
8.3	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of PAD, prior to any post-consent works within the Morgan Array Area.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
8.4	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of a PAD, which details the methodology for further site investigation, including archaeological input into specifications for, and archaeological analysis of, any post-consent, site investigation. The responsibilities of the Morgan Generation Assets Retained Archaeologist includes being consulted in the preparation of any pre-construction surveys where relevant, including geophysical, geotechnical and ROV/diver survey and, if appropriate, in monitoring/checking of data.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).
8.5	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of PAD, which ensures operational awareness and avoidance, where possible, of the location of archaeological anomalies identified as having a low potential.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).
8.6	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of PAD, which details that archaeologists are to be consulted in the preparation of pre-construction cable route clearance or other pre-construction clearance operation, where relevant, and, if appropriate, to carry out archaeological monitoring of such work.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).
8.7	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of PAD, which details the delivery of any mitigation including, where necessary, identification and modification of AEZs and TAEZs.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).



**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
8.8	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of PAD, which details that any agreed archaeological report is deposited with the National Record of the Historic Environment, by submitting an OASIS (Online Access to the Index of archaeological investigations) form with a digital copy of the report within six months of completion of construction of the Morgan Generation Assets.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).
8.9	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement	The nacelles, blades and towers will be painted light grey.	Except as otherwise required by Trinity House the undertaker must paint all structures forming part of the authorised project yellow (colour code RAL 1023) from at least HAT to a height as directed by Trinity House. Unless the MMO otherwise directs, the undertaker must paint the remainder of the structures grey (colour code RAL 7035). Secured as a condition of the draft DCO (document reference C1).
8.10	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement	The lights will be operated at the lowest permissible intensity level. The aviation lighting will be kept to 200 candelas in good visibility conditions. However, in poor visibility (e.g. foggy conditions, the lighting levels may rise to 2,000 candelas).	Lighting levels are secured as a Requirement of the Draft DCO (document reference C1).
<b>Monitoring</b>			
8.11	Volume 2, Chapter 8: Marine archaeology and cultural heritage of the Environmental Statement Outline Offshore Written Scheme of Investigation for Archaeology (document reference J14)	Development of, and adherence to, an Outline Offshore WSI including the establishment of PAD, which through the acquisition of relevant spatial survey data, includes monitoring of AEZs. This monitoring will include the appropriateness of, and adjustments that need to be made to, AEZs during the lifetime of Morgan Generation Assets, where required.	Outline Offshore WSI and PAD is secured within the deemed marine licence(s) of the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.10 Other sea users**

1.10.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to other sea users is presented in Table 1.9.

**Table 1.9: Other sea users, mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
9.1	Volume 2, Chapter 9: Other sea users of the Environmental Statement Safety Zone Statement (document reference J5)	Use of safety zones around offshore infrastructure during construction/decommissioning and periods of major maintenance, as per the Safety Zone Statement	An application for safety zones will be made under The Energy Act 2004 and The Electricity (Offshore Generating Stations) (Safety Zones) (Applications Procedures and Control of Access) Regulations 2007, as per the Safety Zone Statement (document reference J5).
<b>Tertiary Measures</b>			
9.2	Volume 2, Chapter 9: Other sea users of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Notification of construction, maintenance and decommissioning activities through the use of Notice to Mariners (NtMs)	NtMs is secured as a condition of the deemed marine licence(s) within the draft DCO (document reference C1).
9.3	Volume 2, Chapter 9: Other sea users of the Environmental Statement	Site marking and marine charting on nautical charts including an appropriate chart note to facilitate safe passage planning around the Morgan Generation Assets.	Secured within the deemed marine licence(s) within the draft DCO (document reference C1).
9.4	Volume 2, Chapter 9: Other sea users of the Environmental Statement Outline Offshore Operations and Maintenance Plan (document reference J9)	Development of, and adherence to, an Aids to Navigation Management Plan (ANMP) to ensure adequate navigational markers (including lighting and a buoyed construction area), in accordance with the most recent relevant industry guidance and agreed prior to commencement of offshore construction.	ANMP secured within the deemed marine licence(s) within the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
9.5	Volume 2, Chapter 9: Other sea users of the Environmental Statement	Continued communication with other offshore energy operators to promote and maximise cooperation between parties and minimise both spatial and temporal interactions between conflicting activities.	In line with standard industry practice.
9.6	Volume 2, Chapter 9: Other sea users of the Environmental Statement	Proximity agreements will be negotiated and agreed with relevant cable operators, to minimise the potential for any impact in accordance with recognised industry good practice.	In line with standard industry practice.
9.7	Volume 2, Chapter 9: Other sea users of the Environmental Statement	Development of, and adherence to, an Offshore Construction Method Statement (CMS) which includes a Cable Specification and Installation Plan (CSIP) and details of cable monitoring to ensure under keel clearance (UKC) is maintained and no more than a 5% reduction in water depth (referenced to Chart Datum) will occur as a result of cable protection at any point over cables without prior written approval from the Licensing Authority	A CSIP as part of the Offshore CMS is secured within the deemed marine licence(s) within the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.11 Seascape, landscape and visual resources**

1.11.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to seascape, landscape and visual resources is presented in Table 1.10.

**Table 1.10: Seascape, landscape and visual resources mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
10.1	Volume 2, Chapter 10: Seascape, landscape and visual resources of the Environmental Statement	The nacelles, blades and towers will be painted light grey.	Except as otherwise required by Trinity House the undertaker must paint all structures forming part of the authorised project yellow (colour code RAL 1023) from at least HAT to a height as directed by Trinity House. Unless the MMO otherwise directs, the undertaker must paint the remainder of the structures grey (colour code RAL 7035). Secured as a condition of the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.12 Aviation and radar**

1.12.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to aviation and radar is presented in Table 1.11.

**Table 1.11: Aviation and radar mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
11.1	Volume 2, Chapter 11: Aviation and radar of the Environmental Statement	Development of, and adherence to, a Design Plan which will be prepared in accordance with the layout principles (including commitment to two lines of orientation), and agreed with the MMO, in consultation with the MCA, the UKHO and Trinity House as appropriate.	The need for a Design Plan to be approved is secured within the deemed marine licences in the draft DCO (document reference C1).
<b>Tertiary</b>			
11.2	Volume 2, Chapter 11: Aviation and radar of the Environmental Statement	<p>Lighting as required and/or determined necessary for aviation safety as agreed with the Defence Infrastructure Organisation Safeguarding and the Civil Aviation Authority for the operational life of the Morgan Generation Assets unless otherwise agreed with the Ministry of Defence.</p> <p>The Morgan Generation Assets lighting and marking will conform to the following:</p> <ul style="list-style-type: none"> <li>• Red medium intensity aviation warning lights (of variable brightness between a maximum of 2,000 candela (cd)) to a minimum of 10% of the maximum which would be 200 cd) will be located on either side of the nacelle of peripheral wind turbines. These lights will flash simultaneously with a Morse W flash pattern and will also include an infra-red component</li> <li>• All aviation warning lights will flash synchronously throughout the Morgan Array Area and be able to be switched on and off by means of twilight switches (which activate when ambient light falls below a pre-set level)</li> </ul>	Aviation safety is secured through a requirement of the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
		<ul style="list-style-type: none"> <li>• Aviation warning lights will allow for reduction in lighting intensity at and below the horizon when visibility from every wind turbine is more than 5 km (to a minimum of 10% of the maximum (i.e. 200 cd))</li> <li>• SAR lighting of each of the non-periphery wind turbines will be combi infra-red (IR)/200 cd steady red aviation hazard lights, individually switchable from the control centre at the request of the MCA (i.e. when conducting SAR operations in or around the Morgan Array Area)</li> <li>• All wind turbines will be fitted with a low intensity light for the purpose of helicopter winching (green hoist lamp). All wind turbines will also be fitted with suitable illumination (minimum one 5 cd light) for identification signs</li> </ul> <p>The location of all infrastructure (including wind turbines, OSPs, and cables) will be communicated to the UKHO so that they can be incorporated into Aviation Charts and the Notice to Aviators (NOTAM).</p>	
11.3	Volume 2, Chapter 11: Aviation and radar of the Environmental Statement	Defence Geographic Centre Notification - information regarding construction should be passed to the Defence Geographic Centre (DGC) (at <a href="mailto:dvof@mod.gov.uk">dvof@mod.gov.uk</a> ) at least 10 weeks in advance of the obstacle type(s) erection detailing position, height (tip of arc) and type of aviation lighting. Once reported, all will be included in the DGC Obstruction database and all that meet aviation chart inclusion criteria will be published for broader awareness.	In line with standard industry practice.
11.4	Volume 2, Chapter 11: Aviation and radar of the Environmental Statement	<p>Defence Infrastructure Organisation Safeguarding (DIOS) Notification - notify DIOS of the following at least 14 days prior to the commencement of construction:</p> <ol style="list-style-type: none"> <li>a. the date of the commencement of construction</li> <li>b. the date any wind turbines are brought into use</li> <li>c. the maximum height of any construction equipment to be used</li> <li>d. the maximum heights of any wind turbine, meteorological mast and OSP to be constructed</li> </ol>	Aviation safety is secured through a requirement of the draft DCO (document reference C1).

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
		<p>e. the latitude and longitude of each wind turbine, meteorological mast and OSP to be constructed</p> <p>The DIOS must be notified of any changes to the information supplied and of the completion of construction.</p>	
11.5	Volume 2, Chapter 11: Aviation and radar of the Environmental Statement	<p>NATS Aeronautical Information Service Notification - Appropriate information about the site construction and any associated lighting (where applicable), for example the height and temporary location of construction cranes, should be provided to the NATS Aeronautical Information Service (AIS) (for promulgation in applicable aviation publications including the UK Integrated Aeronautical Information Package (IAIP)).</p>	In line with standard industry practice.

**MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS**

**1.13 Socio-economics**

1.13.1.1 A summary of the mitigation, monitoring or enhancement measures relevant to socio-economics is presented in Table 1.12.

**Table 1.12: Socio-economics mitigation, monitoring or enhancement measure**

Reference number	Environmental Statement documents this commitment is included in	Description of mitigation, monitoring or enhancement measure	Means of securing the commitment
<b>Mitigation</b>			
<b>Primary Measures</b>			
13.1	Volume 2, Chapter 13: Socio-economics of the Environmental Statement  Outline Skills and Employment Plan (document reference J8)	The Applicant has provided an Outline Skills and Employment Plan (document reference J8).	This document sets out the principles that will be secured for the Morgan Generation Assets which will be part of a full skills and employment plan for the whole Morgan Offshore Wind Project which will be secured via the Morgan and Morecambe Offshore Wind Farms: Transmission Assets DCO. This will secure the economic benefits associated with the Morgan Generation Assets in relation to skills and employment within the offshore wind sector.