MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Offshore In Principle Monitoring Plan

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Contents

Tables

Glossary

Term	Meaning
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Cumulative Effects	The combined effect of the Transmission Assets in combination with the effects from other proposed developments, on the same receptor or resource.
Development Consent Order	An order made under the Planning Act 2008, granting development consent.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bays inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
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 to apply for ‘deemed marine licences’ in English waters as part of the development consent process.
Morecambe Offshore Windfarm: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morecambe Offshore Windfarm to the National Grid.
Morecambe OWL	Morecambe Offshore Windfarm Limited is owned by Copenhagen Infrastructure Partners' (CIP) fifth flagship fund, Copenhagen Infrastructure V (CI V).

Term	Meaning
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morgan Offshore Wind Project to the National Grid.
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between JERA Nex bp (JNbp) and Energie Baden-Württemberg AG (EnBW).
Non-statutory consultee	Organisations that an applicant may choose to consult in relation to a project who are not designated in law but are likely to have an interest in the project.
Offshore export cable	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to section 42 of the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees (see non-statutory consultee definition).
Transmission Assets Red Line Boundary Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).
Transmission Assets Order Limits: Offshore	The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning. Also referred to in this report as the Offshore Order Limits, for ease of reading.

Acronyms

Acronym	Meaning
AEZ	Archaeological Exclusion Zone
AGDS	Acoustic Ground Discriminating System
CEA	Cumulative Effects Assessment
CIP	Copenhagen Infrastructure Partners
DCO	Development Consent Order
DDV	Drop Down Video
dML	Deemed Marine Licence

Acronym	Meaning
EIA	Environmental Impact Assessment
EnBW	Energie Baden-Württemberg AG
ES	Environmental Statement
JNbp	JERA Nex bp
MMO	Marine Management Organisation
OIPMP	Offshore In Principle Monitoring Plan
OWL	Offshore Wind Limited
ROV	Remotely Operated Vehicle
SNCBs	Statutory Nature Conservation Body
SSS	Side Scan Sonar

Units

Unit	Description
%	Percentage
km^2	Square kilometres
nm	Nautical mile

1 Offshore In Principle Monitoring Plan

1.1 Background

1.1.1 Introduction

1.1.1.1 This document forms the Offshore In Principle Monitoring Plan (OIPMP) prepared for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (referred to hereafter as 'the Transmission Assets').

1.1.2 Project overview

1.1.2.1 Morgan Offshore Wind Limited (Morgan OWL), a joint venture between JERA Nex bp (JNbp) and Energie Baden-Württemberg AG (EnBW), is developing the Morgan Offshore Wind Project. The Morgan Offshore Wind Project is a proposed wind farm in the east Irish Sea.

1.1.2.2 Morecambe Offshore Windfarm Ltd (Morecambe OWL), owned by Copenhagen Infrastructure Partners' (CIP) fifth flagship fund, Copenhagen Infrastructure V (CI V), is developing the Morecambe Offshore Windfarm, also located in the east Irish Sea.

1.1.2.3 Morgan OWL and Morecambe OWL (the Applicants) are jointly seeking a single consent for their electrically separate transmission assets comprising aligned offshore export cable corridors to landfall and aligned onshore export cable corridors to separate onshore substation(s), and onward connection to the National Grid at Penwortham, Lancashire.

1.1.2.4 The purpose of the Transmission Assets is to connect the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (referred to collectively as the 'Generation Assets') to the National Grid. The key components of the Transmission Assets include offshore element, landfall and onshore elements. Details of the activities and infrastructure associated with the Transmission Assets are set out in Volume 1, Chapter 3: Project description of the ES (document reference: F1.3).This OIPMP has been developed for the offshore elements of Transmission Assets, seawards of Mean High Water Springs, including the intertidal area, where relevant. In summary, the offshore elements of Transmission Assets will comprise up to six offshore export cables: four for the Morgan Offshore Wind Project: Transmission Assets and two for the Morecambe Offshore Windfarm: Transmission Assets. This OIPMP has been updated at Deadline 4 to reflect conversations between stakeholders and the Applicants as well as submissions made by Historic England, Natural England, the Marine Management Organisation (MMO) and other relevant stakeholders through the examination process.

1.1.2.5 This OIPMP has been further updated in response to questions to the Applicants set out in the Secretary of State's request for further information issued 12 March 2026.

1.1.3 Purpose of the Offshore In Principle Monitoring Plan

1.1.3.1 This OIPMP has been produced to present the objectives and provide assurance that necessary offshore environmental monitoring associated with the Transmission Assets will be formally managed. Specifically, this document aims to:

- compile relevant offshore monitoring as identified in the offshore ES chapters (document reference F2);
- establish the objectives of this monitoring; and
- present the guiding principles and framework through which monitoring activities associated with the construction and operation of the Transmission Assets will be delivered.

1.1.3.2 This OIPMP references the following documents.

- Volume 2, Chapter 1: Physical processes of the ES (Document reference: F2.1).
- Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the ES (Document reference: F2.2).
- Volume 2, Chapter 6: Commercial fisheries of the ES (Document reference: F2.6).
- Volume 2, Chapter 8: Marine archaeology of the ES (Document reference: F2.8).

1.1.4 Structure of this document

1.1.4.1 This document is set out as follows.

- **Section 1.1** presents an introduction to the OIPMP.
- **Section 1.2 and 1.3** presents the implementation and measure adopted of this OIPMP.
- **Section 1.4** presents the general principles and guidance which underlines this OIPMP.
- **Section 1.5** presents the proposals for environmental monitoring and the engineering and design related studies accompanying these proposals.
- **Sections 1.6** to **1.9~~1.10~~** presents the proposed environmental monitoring for the appropriate Environmental Impact Assessment (EIA) topics.

1.2 Implementation

1.2.1.1 Following the granting of consent for the Transmission Assets, detailed Monitoring Plans will be prepared on behalf of Morgan OWL and/or Morecambe OWL, prior to commencement of the relevant stage of works. The detailed Monitoring Plans will require approval by the Marine Management Organisation (MMO) following consultation with relevant stakeholders.

1.2.1.2 The Applicants have committed to implementation of these Measures via the following commitment, CoT115 (see Volume 1, Annex 5.3: Commitments Register (document reference F1.5.3)), which is secured by inclusion of condition 18(1)(d) of the draft Development Consent Order (DCO) Schedules 14 and 15 (document reference C1). Below sets out the condition wording for condition 18(1)(d):

18.— (1) The licensed activities or any stage of those activities must not commence until the following (insofar as relevant to that activity or stage of activity) have been submitted to and approved in writing by the MMO, in consultation with Trinity House, the MCA and UKHO as appropriate—

(d) a monitoring plan (which accords with the offshore in principle monitoring plan) to include details of proposed pre-construction surveys, baseline report format and content, construction monitoring, post-construction monitoring and related reporting in accordance with conditions 24, 25 and 26 to be submitted to the MMO in accordance with the following-

(i) at least four months prior to the first survey, detail of the pre-construction surveys and an outline of all proposed monitoring;

(ii) at least four months prior to commencement of construction, detail on construction monitoring;

(iii) at least four months prior to completion of construction, details of operational monitoring, if required.

unless otherwise agreed in writing with the MMO.

1.2.1.3 The Transmission Assets may adopt a staged approach to the approval of DCO requirements. This will enable requirements to be approved in part or in whole, prior to the commencement of the relevant stage of works in accordance with whether staged approach is to be taken to the delivery of the each of the offshore wind farms.

1.2.1.4 For works within the Transmission Assets Order Limits seaward of Mean High Water Springs, this approach will be governed by the inclusion of condition 12 of Schedules 14 and 15 of the draft DCO, which requires a written scheme detailing the stages of construction to be submitted for approval by the MMO prior to the commencement of the licensed activities.

1.3 Measure adopted as part of the Transmission Assets

1.3.1.1 The measures adopted as a part of the Transmission Assets are set out in Volume 1, Annex 5.3: Commitments register of the ES (document reference F1.5.3). Those measures which are relevant to the In Principle Monitoring Plan are described in **Table 1.1**~~**Table 1.1**~~.

1.3.1.1 In line with Volume 1, Chapter 5: Environmental assessment methodology of the ES (document reference F1.5), embedded measures will form part of the final design (and/or are established legislative requirements/good practice).

Table 1.1: Measures (commitments) adopted as part of the Transmission Assets

Commitment number	Measure adopted	How the measure will be secured
Embedded measures		
CoT45	The Outline Offshore Cable Specification and Installation Plan (CSIP) for the Fylde MCZ includes: details of cable burial depths, cable protection, and cable monitoring. The Outline CSIP also includes an Outline Cable Burial Risk Assessment (CBRA). Detailed CSIP(s) and CBRA(s) will be prepared by the Applicants covering the full extent of their respective offshore export cable corridors. Detailed CSIPs will be developed in accordance with the Outline CSIP and will ensure safe navigation is not compromised including consideration of under keel clearance. No more than 5% reduction in water depth (referenced to Chart Datum) will occur at any point on the offshore export cable corridor route without prior written approval from the licensing authority in consultation with the MCA and Trinity House.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(e) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition 18(1)(e) (Pre-construction plans and documentation)
CoT63	An Outline Offshore Written Scheme of Investigations (WSI) for Archaeology has been prepared and submitted with the application for development consent. The Outline Offshore WSI for Archaeology includes: - the requirement for Archaeological Exclusion Zones (AEZs) around those sites identified as having high and medium archaeological potential, as presented in the Offshore Historic Environment Plan; -the requirement for Temporary Archaeological Exclusion Zones (TAEZs), as presented in the Offshore Historic Environment Plan; -implementation of a Protocol for Archaeological Discoveries (PAD) in accordance with 'Protocol for Archaeological Discoveries: Offshore Renewables Projects' (The Crown Estate, 2014); - the incorporation of marine archaeology specification and analysis in further pre-construction surveys such as geophysical, geotechnical, or ROV/diver surveys; - operational awareness and avoidance, where possible, of low potential anomalies; - where avoidance of low potential anomalies is not possible, mitigation measures for potential direct impacts to marine archaeology; and - details of reporting and archival requirements. Detailed Offshore WSI(s) for Archaeology will be developed in accordance with the Outline Offshore WSI for Archaeology, in consultation with Historic England.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(g) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(g) (Pre-construction plans and documentation)

Commitment number	Measure adopted	How the measure will be secured
CoT71	An Outline Offshore Operation and Maintenance Plan has been prepared and submitted as part of the application for development consent. Detailed Offshore Operation and Maintenance Plan(s) will be produced prior to entering the operation and maintenance phase.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition11(3) (Maintenance of the authorised scheme) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition11(3) (Maintenance of the authorised scheme)
CoT115	An Offshore In Principal Monitoring Plan (OIPMP) has been prepared and submitted as part of the application for development consent. The OIPMP includes for monitoring of the recovery of sediments and benthic communities within representative areas of the Fylde MCZ potentially impacted by sandwave clearance, cable installation and cable protection, at appropriate temporal intervals. Detailed Offshore Monitoring Plans will be produced prior to operation and maintenance phases in accordance with the OIPMP and will be approved in consultation with statutory advisors and regulators.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(d) (Pre-construction plans and documentation)

1.4 General principles and guidance

1.4.1 Guidance

1.4.1.1 There are a number of guidance documents and reviews to draw on when considering the overarching principles in marine environmental monitoring. Of particular relevance to offshore wind farms is the independent review of post-consent environmental monitoring data undertaken by Fugro EMU Ltd on behalf of the Marine Management Organisation (MMO) (MMO, 2014a) and the MMO's subsequent recommendations (MMO, 2014b).

1.4.2 Principles

- Paragraphs 2.8.84 and 2.8.85 of the National Planning Statement (NPS) for Renewable Energy Infrastructure (EN-3) (Department for Energy Security & Net Zero (DESNZ), 2023) states the following.

- *'Monitoring must measure and document the effects of the development and the efficacy of any associated mitigation or compensation. This will enable an assessment of the accuracy of the original predictions and improve the evidence base for future mitigation and compensation measures enabling better decision-making in future EIAs and Habitats Regulations Assessments (HRAs).'*
- Monitoring should have a clear purpose and be designed to provide answers to specific questions where significant environmental impacts have been identified (Cefas, 2012; Glasson *et al*., 2011; OSPAR, 2008). As such (and in-line with the MMO's recommendations for targeted monitoring (MMO, 2014b)), monitoring proposals should have an identified frequency (and/or duration) and confirmed outputs, which provide statistically robust datasets designed to address the hypothesis being tested.
- The presence of a significant impact identified in the EIA should not, in itself, lead to a requirement for monitoring. Monitoring should address significant evidence gaps or uncertainty relevant to the Transmission Assets, where it is realistic for those gaps to be filled or uncertainty reduced significantly. Monitoring should also be targeted at those features considered to be particularly sensitive to the impacts of the development, especially where these features are of economic or environmental importance. MMO (2014b) advise that the greatest focus should be placed on impacts of concern for which the highest uncertainty remains. Such targeted monitoring is more likely to answer key uncertainties than broad scale/generic monitoring approaches.
- Proposals for monitoring should be based, where relevant, on the best practice and outcomes of the latest review of environmental data as well as being proportionate to the detailed design (i.e. best available evidence) associated with post-consent monitoring of licence conditions of offshore wind farms (MMO, 2014b).
- An iterative approach should be taken whereby the scope and design of any new monitoring work should be based on a review of the findings of any preceding phases of monitoring or relevant survey work, including surveys carried out in support of the EIA for the Transmission Assets. It is acknowledged that the MMO may require amendments to individual monitoring programmes if the evidence indicates the existing monitoring programme is not fit for purpose and/or impacts are not as predicted. In the event that any monitoring report provided to the MMO identifies impacts which are beyond those predicted within the EIA, adaptive management / mitigation may be required. Where relevant, an Adaptive Management Plan to reduce effects to within those predicted within the EIA, including timelines and proposed monitoring to test effectiveness, would be submitted alongside the monitoring reports. The Adaptive Management Plan would be agreed with the MMO in consultation with the relevant SNCBs with the aim of reducing

effects to a suitable level. Any such agreed or approved adaptive management plan would be implemented and monitored in full.

- Where site specific monitoring is undertaken pre- and post-construction it may be relevant to consider undertaking monitoring over non-consecutive years.
- Under certain circumstances for addressing specific uncertainties, it may be more appropriate to adopt a strategic approach to the monitoring. Strategic monitoring may be considered where contributing to the answering of a broader question that is still linked to the relevant receptors. It is likely to offer greater ability to address key questions than any site-specific monitoring may achieve. Such strategic work may need to be de-coupled from any specific phase of the Transmission Assets.
- Preparation of the monitoring plan post-consent (in accordance with this In Principle Monitoring Plan) will accord, where relevant, with the "MMO Standardisation of Offshore Wind Post-Consent Monitoring" (MMO, 2025).
- The Applicants will ensure that all standards and best practice adhered to during monitoring are outlined clearly within the relevant monitoring reports.

1.5 In principle proposals for monitoring

1.5.1 Approach

1.5.1.1 This document outlines the rationale behind the proposed offshore environmental monitoring, with a view to reducing uncertainty when developing the detailed plan(s) post-consent. Following an iterative approach, it should be recognised that increased knowledge and understanding based on survey outcomes may influence the design of subsequent monitoring work. The focus, requirements and methodologies for future monitoring for the Transmission Assets may therefore differ from the outline approach presented in this document. Any such future modifications to monitoring approaches will be the subject of ongoing consultation between the Applicants, MMO, and its statutory advisers, where relevant.

1.5.1.2 The following topics which state relevant monitoring measures, are considered in this plan.

- Physical processes.
- Benthic subtidal and intertidal ecology.
- Commercial fisheries.
- Marine archaeology.

1.5.1.3 For each topic, a table is presented which details the:

- potential effects and receptor(s) for which monitoring is relevant;
- monitoring objectives;

- the approach to monitoring;
- rationale;
- links to other monitoring; and
- method of securing monitoring.

1.5.1.4 For each topic, the tables are divided into sections for pre-construction monitoring, construction monitoring, and post-construction monitoring. At this stage, no monitoring approaches are outlined for the decommissioning phase.

1.5.1.5 Topics which do not state topic specific and relevant monitoring measures are not considered in this outline plan. No monitoring is proposed for either fish and shellfish ecology, marine mammals or offshore ornithology. The assessment of impacts on fish and shellfish ecology, marine mammals, and offshore ornithology, as a result of the construction, operation and maintenance, and decommissioning phases of the Transmission Assets, concluded the effects to be not significant in EIA terms. Based on the predicted impacts to these topic receptors, it is concluded that no specific monitoring to test the predictions made within the impact assessment is required (see Volume 2, Chapter 3: Fish and shellfish ecology of the ES (F2.3), Volume 2, Chapter 4: Marine mammals of the ES (F2.4) and Volume 2, Chapter 5: Offshore ornithology of the ES (F2.5).

1.5.2 Engineering and design-related studies

1.5.2.1 Studies will be undertaken for engineering purposes in addition to the offshore environmental monitoring required under conditions of the dMLs within the DCO. Some of these studies will overlap with the conditioned monitoring, and wherever possible, the Applicants will endeavour to combine surveys for monitoring purposes with those already being carried out for engineering purposes. Studies to be undertaken may include but are not limited to:

- Pre-construction
  - geophysical;
  - geotechnical;
  - unexploded ordnance survey;
  - remotely operated vehicle (ROV) survey; and
- Construction
  - cable burial survey;
  - ROV survey.
- Operations and maintenance
  - cable burial survey; and
  - ROV survey.

1.6 Physical processes

1.6.1 Conclusions of the Environmental Statement

1.6.1.1 The potential impacts of the Transmission Assets on physical processes receptors have been assessed within Volume 2, Chapter 1: Physical processes of the ES (document reference: F2.1). All impacts assessed were of **minor adverse** or lower significance and following application of the commitments outlined in Table 1.1~~Table 1.1~~ above, all residual effects are deemed negligible. Therefore, no effects which are significant in terms of EIA regulations have been identified.

1.6.2 In principle monitoring

1.6.2.1 Overall, it is concluded that there will be no significant effects arising from the Transmission Assets during the construction, operation and maintenance, or decommissioning phases. Therefore, for physical processes, no topic specific further monitoring to test the predictions made within the impact assessment is proposed. The monitoring in Table 1.2~~Table 1.2~~ is related to the undertaking of engineering maintenance activities outlined in the Volume 1, Chapter 3: Project description of the ES (document reference: F1.3).

Table 1.2: In principle monitoring proposed for physical processes

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
Pre-construction phase						
Potential effects on changes on sandwave features from the planned installation of offshore export cables	Seabed morphology and bathymetry	To collect baseline geophysical data to set a baseline for assess seabed morphology and sandwave characteristics prior to construction	Baseline geophysical and/or ROV surveys to characterise sandwave features and seabed morphology prior to construction.	To understand existing seabed morphology and sandwave characteristics prior to construction.	Benthic subtidal ecology (Table 1.3~~Table 1.3~~), Commercial fisheries (Table 1.4~~Table 1.4~~), Marine archaeology and cultural heritage (Table 1.5~~Table 1.5~~) and engineering and design-related studies (Section 1.5.2).	CoT115: An OIPMP is secured within DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(d) (Pre-construction plans and documentation)
Operations and maintenance phase						
Potential effects on sandwave features from the installation	Seabed morphology and bathymetry	To monitor the recoverability of sandwaves	Monitoring of sandwave recovery through comparative	To understand the changes and	Benthic subtidal ecology (**Table 1.3**~~**Table 1.3**~~),	CoT115: An OIPMP is secured within DCO Schedule 14

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
of offshore export cables			analysis of pre- and post-construction geophysical survey data. Application of adaptive management, as set out under bullet point 6 of Section 1.4.2, which may include an extension to the monitoring programme should the post-construction monitoring programme agreed with the MMO identify impacts which are beyond those predicted within the EIA / there remains a significant difference to baseline conditions.	recovery of sandwave features	Commercial fisheries (Table 1.4~~Table 1.4~~), Marine archaeology and cultural heritage (Table 1.5~~Table 1.5~~).	(Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(d) (Pre-construction plans and documentation)
Impacts to sediment transport and sediment transport pathways due to presence of infrastructure	Sediment transport and sediment transport pathways	To monitor the effect of sediment transport and sediment transport pathways on cable burial to ensure that buried	Monitoring of the cables and their burial status. Application of adaptive management, as set out under bullet point	To understand whether sediment movement in the offshore export cable corridor has affected cable burial.	Benthic subtidal ecology (Table 1.3~~Table 1.3~~), Commercial fisheries (Table 1.4~~Table 1.4~~), Marine archaeology	CoT115: An OIPMP is secured within DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets)

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
		cable remains adequately buried.	6 of Section 1.4.2, which may include an extension to the monitoring programme should the post-construction monitoring programme agreed with the MMO identify impacts which are beyond those predicted within the EIA / there remains a significant difference to baseline conditions.		and cultural heritage (**Table 1.5**~~**Table 1.5**~~).	Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(d) (Pre-construction plans and documentation)

1.7 Benthic subtidal and intertidal ecology

1.7.1 Conclusions of the Environmental Statement

1.7.1.1 The potential impacts of the Transmission Assets on benthic subtidal and intertidal ecology receptors have been assessed within Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the ES (document reference: F2.2). All impacts assessed were of **minor adverse** or lower significance and following application of the commitments outlined in Table 1.1~~Table 1.1~~ above, all residual effects are deemed of minor adverse or lower significance. Therefore no effects which are significant in terms of EIA regulations have been identified. It is concluded therefore, that no specific further monitoring, to test the predictions made within the impact assessment, is proposed at this time beyond existing commitments.

1.7.2 In principle monitoring

1.7.2.1 The commitment to monitor the recovery of sediments and recolonisation of benthic communities' status has been included as this is considered industry best practice where a development crosses a marine conservation zone (MCZ) in lines with CoT115 in Table 1.1~~Table 1.1~~. Table 1.3~~Table 1.3~~ provides information on the monitoring commitments for benthic subtidal and intertidal ecology within the Fylde MCZ.

Table 1.3: In principle monitoring proposed for benthic subtidal and intertidal ecology

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
Pre construction phase						
Changes in the recolonisation/recovery of associated benthic communities (in Fylde MCZ)	Benthic Ecology	To set a pre-construction baseline against which to monitor the temporal and spatial recovery of the benthic communities within the Fylde Marine Conservation Zone (MCZ) through post-construction benthic sampling, in order to evaluate the effects of construction activities and the progression of community recovery over time.	Appropriate baseline surveys (likely to be SSS/AGDS/DDV/Grab) to describe the spatial extent of pre-construction benthic communities	To monitor the temporal and spatial recovery of benthic communities following construction activities of the Transmission Assets within the Fylde MCZ.	Physical processes (Table 1.2~~Table 1.2~~)	CoT 115: An OIPMP is secured within DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(d) (Pre-construction plans and documentation)
Operations and maintenance phase						
Impacts on recovery of sediments (in Fylde MCZ)	Seabed sediments	The aim will be to confirm the seabed sediment recovery within the Fylde MCZ following construction activities over a period of time, at agreed temporal intervals. It should be noted that should recovery be confirmed during a survey, then no further	Monitoring of seabed recovery within the Fylde MCZ via geophysical survey and / or ROV surveys.	To understand sediment recoverability following construction activities of the Transmission Assets within the Fylde MCZ.	Physical processes (Table 1.2~~Table 1.2~~)	CoT115: An OIPMP is secured within DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 -

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
		monitoring of recovery would be undertaken.				Condition18(1)(d) (Pre-construction plans and documentation) CoT45: a CSIP is secured within: DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(e) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition 18(1)(e) (Pre-construction plans and documentation)
Impacts on recolonisation/recovery of associated benthic communities and the potential colonisation by Invasive Non-Native Species (INNS) on and in the vicinity of any hard substrate (in Fylde MCZ)	Benthic Ecology	The aim will be to monitor the temporal and spatial recovery of the benthic communities and the potential colonisation by Invasive Non-Native Species (INNS) against the pre-construction baseline following construction activities within the Fylde MCZ, over a period of time, at agreed temporal intervals. It should be noted that should recovery be confirmed during a survey, then no further monitoring of recovery would be undertaken.	Monitoring of the temporal and spatial recovery of benthic communities and the potential colonisation by INNS on and in the vicinity of any hard substrate within the Fylde MCZ (likely to be SSS/AGDS/DDV/Grab).	To understand benthic community recoverability and any potential colonisation by INNS following construction activities of the Transmission Assets within the Fylde MCZ.	Physical processes (Table 1.2~~Table 1.2~~)	

1.8 Commercial fisheries

1.8.1 Conclusions of the Environmental Statement

1.8.1.1 The potential impacts of the Transmission Assets on commercial fisheries receptors have been assessed within Volume 2, Chapter 6: Commercial fisheries of the ES (document reference F2.6). All impacts assessed were of **minor adverse** or lower significance and following application of the commitments outlined in Table 1.1~~Table 1.1~~ above, all residual effects are deemed of minor adverse or lower significance. Therefore no effects which are significant in terms of EIA regulations have been identified. It is concluded therefore, that no specific further monitoring, to test the predictions made within the impact assessment, is proposed at this time beyond existing commitments

1.8.2 In principle monitoring

1.8.2.1 Overall, it is concluded that there will be no significant effects arising from the Transmission Assets during the construction, operation and maintenance, or decommissioning phases. However, the commitment to monitor asset integrity of the offshore export cables and their burial status as part of CoT71 in Table 1.1~~Table 1.1~~ relates to snagging risk for fishing gear and has been included as this is considered industry best practice. Table 1.4~~Table 1.4~~ provides information on the monitoring commitments for commercial fisheries.

Table 1.4: In principle monitoring proposed for commercial fisheries

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
Operations and maintenance phase						
Loss or damage to fishing gear due to snagging	Fishing vessels	To ensure that buried cable remains adequately buried and reduce snagging risk.	Engineering asset integrity surveys monitoring the offshore export cables and their burial status.	To understand whether cables associated with the Transmission Assets have the potential to snag fishing gear.	Physical Process (Table 1.2~~Table 1.2~~)	CoT 115: An OIPMP is secured within: DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(d) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(d) (Pre-construction plans and documentation)

1.9 Marine archaeology

1.9.1 Conclusions of the Environmental Statement

1.9.1.1 The potential impacts of the Transmission Assets on marine archaeology receptors have been assessed within Volume 2, Chapter 8: Marine Archaeology of the ES (document reference: F2.8). All impacts assessed were of **minor adverse** or lower significance, and following application of the commitments outlined in Table 1.1~~Table 1.1~~ above, all residual effects are deemed of minor adverse or lower significance. Therefore no effects which are significant in terms of EIA regulations have been identified. It is concluded therefore, that no specific further monitoring, to test the predictions made within the impact assessment, is proposed at this time beyond existing commitments

1.9.2 In principle monitoring

1.9.2.1 Overall, it is concluded that there will be no significant effects arising from the Transmission Assets during the construction, operation and maintenance, or decommissioning phases. It is concluded therefore, that no specific further monitoring, to test the predictions made within the impact assessment, is proposed at this time beyond the existing commitments within the Outline Written Scheme of Investigation (WSI) for archaeology (CoT63 in Table 1.1~~Table 1.1~~). The monitoring commitment is listed below in Table 1.5~~Table 1.5~~**.**

Table 1.5: Existing monitoring commitments for marine archaeology

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
Pre-construction						
Potential impact on the preservation and protection from damage of shipwrecks and archaeological sites of importance.	Marine archaeological sites	To reduce the magnitude of impact on marine archaeology receptors by monitoring and proposing changes to Archaeological Exclusion Zones (AEZ) boundaries as required; preventing activities from taking place within AEZs.	Archaeological input into specifications for, and archaeological analysis of, any further site investigation, including pre-construction geophysical, geotechnical, diver or remotely operated vehicle surveys undertaken of the Transmission Assets Order Limits: Offshore as part of engineering or design related studies or to meet the requirements of this Offshore In-Principle Monitoring Plan.	To monitor and amend AEZs to ensure appropriate long term management and preservation of archaeological sites of importance and shipwrecks. To identify any additional sites of archaeological importance that may require further investigation, avoidance or engagement with the Statutory Historic Body which may have become detectable as a result of natural seabed variation since baseline surveys were undertaken.	N/A	CoT63: An Offshore WSI is secured within DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(g) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(g) (Pre-construction plans and documentation)

Potential effect	Receptor	Monitoring objectives	Monitoring approach	Rationale	Links to other monitoring	Method of securing monitoring
Operations and maintenance phase						
Potential impact on the preservation and protection from damage of shipwrecks and archaeological sites of importance.	Marine Archaeological sites	To reduce the magnitude of impact on marine archaeology receptors by monitoring and proposing changes to Archaeological Exclusion Zones (AEZ) boundaries as required; preventing activities from taking place within AEZs.	Archaeological input into specifications for, and archaeological analysis of, any further site investigation, including pre-construction geophysical, geotechnical, diver or remotely operated vehicle surveys undertaken of the Transmission Assets Order Limits: Offshore as part of engineering or design related studies or to meet the requirements of this Offshore In-Principle Monitoring Plan.	To identify any additional sites of archaeological importance that may require further investigation, avoidance or engagement with the Statutory Historic Body which may have become detectable as a result of natural seabed variation since baseline surveys were undertaken.	N/A	CoT63: An Offshore WSI is secured within DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(g) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Windfarm Transmission Assets), Part 2 - Condition18(1)(g) (Pre-construction plans and documentation)

1.10 Reference List

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