

# **Environmental Impact Assessment Written Confirmation of the EIA Consent Decision**

## **Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) (“the Regulations”)**

### **Morlais – Tidal Stream Demonstration Project**

The offshore development area for the regulated activity covers an area of 35km<sup>2</sup> to the west of Holy Island, Anglesey, combined with an export cable corridor with an area of 4.75km<sup>2</sup> with landfall near Penthos Feliw, plus associated onshore infrastructure contained within an onshore development area of 1km<sup>2</sup>.

**ORML1938**

**14 December 2021**

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# 1. Introduction

- 1.1 This document is the Environmental Impact Assessment ('EIA') Written Confirmation document for a regulated activity, requiring a Marine Licence, proposed by Menter Môn Morlais Limited in Marine Licence application ORML1938 to provide a consented tidal technology demonstration zone, specifically designed for the installation and commercial demonstration of multiple arrays of tidal energy devices up to an installed capacity of 240 Megawatts ("the Project").

## 2. The Project

### 2.1 Project Background

- 2.1.1 An application for a Marine Licence for the Project was submitted to Natural Resources Wales Permitting Service (NRW PS) by Menter Môn Morlais Limited ('the applicant') on 17 September 2019. A number of documents were submitted to support the application including the Morlais Project Environmental Statement (the ES). Where appropriate, these documents are referred to within the document.
- 2.1.2 The Project comprises a tidal technology demonstration zone, specifically designed for the installation and commercial demonstration of multiple arrays of tidal energy devices up to an installed capacity of 240 Megawatts (MW). The offshore development area covers an area of 35km<sup>2</sup> to the west of Anglesey (see Section 2.2). The Project will include communal infrastructure for tidal technology developers which provides a shared route to a local grid connection via nine export cables, an onshore landfall substation, and an onshore electrical cable route to a grid connection via an existing grid connection substation located to the west of Holyhead, Anglesey.
- 2.1.3 The Marine project elements include construction of the following:
- Up to nine export cables;
  - Up to nine export cable tails (shared with onshore components);
  - Navigation and environmental monitoring equipment;
  - Mooring and foundation structures;
  - Offshore electrical infrastructure, including submerged, floating or surface emergent hubs;
  - Up to 620 tidal devices, each comprising:
    - Foundation or anchors on or within the seabed;
    - A supporting substructure or mooring;
    - One or more Tidal Energy Convertors (TEC); and
    - Cable connections.
- 2.1.4 The Onshore development encompasses the following:
- Landfall works including transition pits;
  - Landfall substation at Ty Mawr (referred to as the Landfall Substation);
  - Cable installation from landfall to Landfall Substation;
  - Switchgear building at Parc Cybi (referred to as the Switchgear Building);

- Grid connection substation at Orthios (referred to as the Grid Connection Substation);
  - Cable installation from Landfall Substation to Grid Connection Substation, via the Switchgear Building, including cable junction pits;
  - Temporary road and right of way closures;
  - Temporary laydown and construction areas, including fencing / walls, and accommodation;
  - Levelling works; and
  - Parking areas (including electric vehicle charging points) and site access.
- 2.1.5 All activities listed in 2.1.3 will require a Marine Licence under Part 4, (Chapter 1) Section 66 of the Marine and Coastal Access Act.
- 2.1.6 The applicant has presented a Project Design Envelope (PDE) ('Rochdale Envelope') for the Project. This has been utilised for the assessment as, due to the nature of the project as a tidal energy test site, some of the details cannot be confirmed at the time of the assessment. This approach looks to provide flexibility, acknowledges the rapidly evolving nature of tidal stream technologies and allows for future tidal stream innovations to be deployed across the site. The assessment of environmental effects has, therefore, been undertaken on the 'worst-case' parameters within the PDE and presented within the ES and other assessments.
- 2.1.7 Within Chapter 4 (Project Description) of the ES, the applicant has proposed that the Project will install arrays of tidal devices in a phased approach, with the number and scale of each phase of deployment linked to the outcomes of an Environmental Mitigation and Monitoring Plan (EMMP). An outline of the EMMP has been provided by the applicant to support the ES.

## 2.2 Location

- 2.2.1 The offshore development area covers an area of 35km<sup>2</sup> to the west of Holy Island, Anglesey, combined with an export cable corridor with an area of 4.75 km<sup>2</sup> with landfall near Penrhos Feilw (Figure 1), plus associated onshore infrastructure contained within an onshore development area of 1 km<sup>2</sup> (Figure 2).



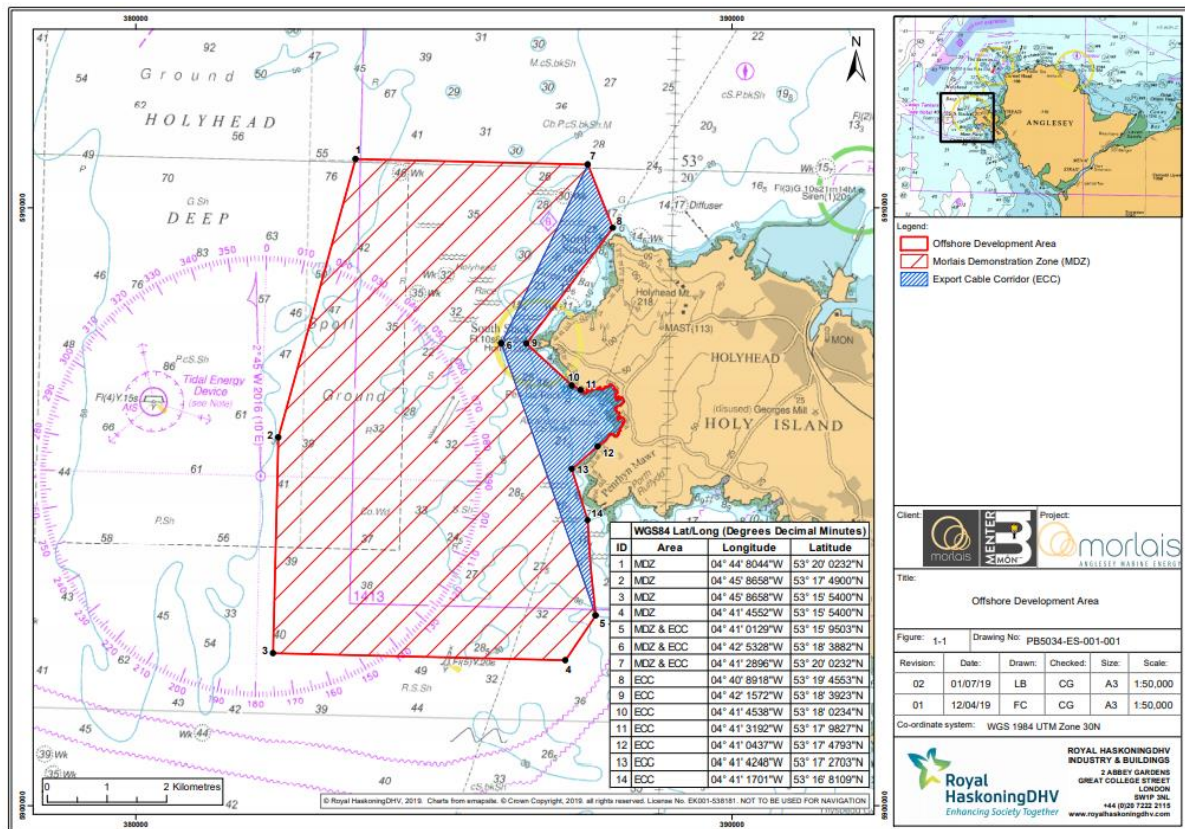


Figure 1: Location and boundary of the Morlais Demonstration Zone and Export Cable Corridor. Reproduced from Figure 1-1 of Environmental Statement Vol II

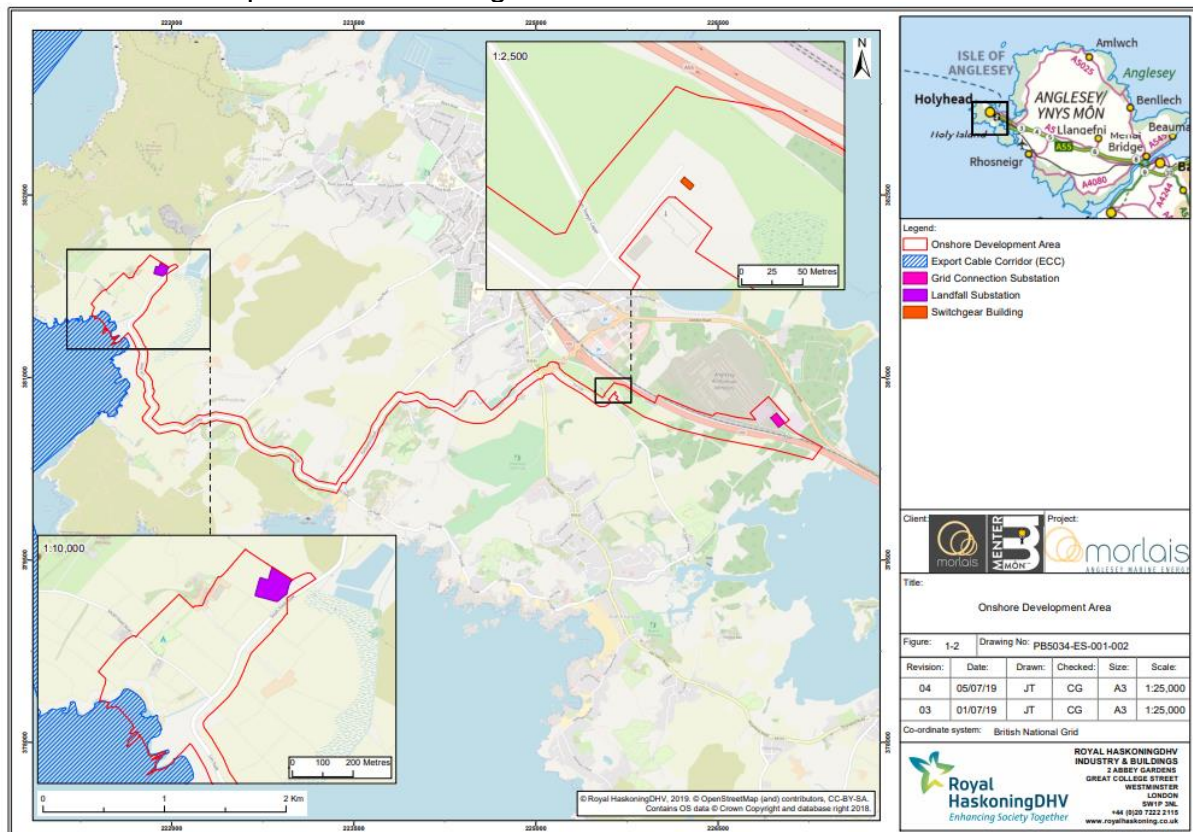


Figure 2: Location and boundary of the Onshore Development Area which includes the landfall site, onshore cable route, substations and grid connection location. Reproduced from Figure 1-2 of Environmental Statement Vol II

## 2.3 Statement of need

2.3.1 The objectives of the Project as identified within Section 1.2.5 of the ES are as follows:

- Generation of long-term financial income / resources for reinvestment in socio-economic and environmental projects to support the wider community;
- Development of locally based skills;
- Attracting investment to the area;
- Becoming a centre of excellence for tidal stream technologies;
- Providing a world class facility for tidal technology development;
- Preserving the environment; and
- Securing a sustainable energy supply for the area.

## 2.4. Regulating regimes

2.4.1 The Project overlaps between two main consenting regimes.

2.4.2 A Marine Licence under the Marine and Coastal Access Act 2009, administered by NRW PS acting on behalf of the Licensing Authority, the Welsh Ministers. Aspects applied for via a Marine Licence are identified within section 2.1.3.

2.4.3 A Transport for Works Act Order under the Transport & Works Act (1992) for the Project. This was considered by the Planning Inspectorate (reference TWA/3234121) who submitted their report to the Welsh Ministers. On 22 October 2021 a 'minded-to' letter was issued by Welsh Minister for Climate Change (reference qA1346892). The letter stating that the Minister is 'minded-to' make the Order and grant deemed planning permission, subject to specified amendments. The letter provides a number of planning conditions to be attached to the deemed planning permission.

## 3. Environmental Impact Assessment

3.0.1 Council Directive 2011/92/EU (as amended) on the assessment of the effects of certain public and private projects on the environment ("the EIA Directive") aims to protect the environment and the quality of life by ensuring that projects which are likely to have significant environmental effects by virtue of their nature, size or location are subject to an EIA before permission is granted.

3.0.2 The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("the Regulations") transpose the EIA Directive in Wales and England for marine licence applications.

3.0.3 Pursuant to Regulation 8 of the Regulations, Natural Resources Wales (NRW) considered that the proposed works fell under Schedule A2, para 13 and 20 of the

Regulations on the assessment of the effects of the project on the environment, specifically:

*13. Industrial installations for the production of electricity, steam and hot water (unless included in Schedule A1).*

*20. Installations for hydroelectric energy production.*

3.0.4 Accordingly, the Marine Licence application required for the Project was accompanied by an Environmental Statement (ES).

3.0.5 NRW provided comments on a Scoping Report entitled “*Morlais Tidal Array Scoping report*” dated 19 April 2018, submitted by Menter Môn on 11 July 2018 reference SC1804.

### 3.1 The Environmental Statement (ES)

3.1.1 The ES assessed the proposed project under the following topic headings:

- Introduction
- Policy and Legislation
- Site Selection and Consideration of Alternatives
- Project Description
- EIA Methodology
- Consultation
- Metocean Conditions and Coastal Processes
- Marine Water and Sediment Quality
- Benthic and Intertidal Ecology
- Fish and Shellfish Ecology
- Marine Ornithology
- Marine Mammals
- Offshore Archaeology and Cultural Heritage
- Commercial Fisheries
- Shipping and Navigation
- Marine Infrastructures and Other Users
- Water Resources and Flood Risk
- Ground Conditions and Contamination
- Onshore Ecology
- Onshore Archaeology and Cultural Heritage
- Noise and Vibration
- Air Quality
- Traffic and Transport
- Seascape, Landscape and Visual Impact Assessment
- Socio-Economics, Tourism and Recreation
- Cumulative, Transboundary and In-Combination Impact Assessment
- Summary.



- 3.1.2 NRW PS is satisfied that the ES meets the requirements of Regulation 12 (2) and Schedule 3 of the Regulations. Specific comments pertinent to each ES chapter can be found in Section 7 of this document.

## **3.2 Legislative and Policy Framework**

Relevant considerations under legislation and / or policy are set out below:

### **3.2.1 Marine and Coastal Access Act (MCAA) 2009**

Under the MCAA Section 69 (1), NRW PS will have regard to the following in deciding whether to grant a Marine Licence:

- (a) the need to protect the environment,
- (b) the need to protect human health,
- (c) the need to prevent interference with legitimate uses of the sea, and such other matters as the authority thinks relevant.

### **3.2.2 Water Framework Directive (Council Directive 2000/60/EC)**

3.2.2.1 The provisions of the WFD apply to the area of sea from the mean low water mark up to 1 nautical mile from shore. The WFD requires that a project or activity does not cause or contribute to deterioration in status of European Union (EU) water bodies or 'prevent the water body achieving 'good status'.

3.2.2.2 The Potential effect of the Project was also screened against the Water Framework Directive objectives for the following Water Bodies:

- Caernarfon Bay North – Coastal
- Holyhead Strait - Coastal
- Holyhead Bay – Coastal
- Ynys Mon Secondary – Ground water

3.2.2.3 A Water Framework Directive Compliance Assessment concluded that the proposal, when considered alone and in-combination, will not pose a risk to deterioration of the above listed waterbodies.

3.2.2.4 Further details are described within the Morlais Project Water Framework Directive Compliance Assessment.

### **3.2.3 Waste Framework Directive (Council Directive 2008/98/EC) ('WaFD')**

3.2.3.1 'Establishes a legal framework for treating waste in the EU. This is designed to protect the environment and human health by emphasising the importance of proper waste management, recovery and recycling techniques to reduce pressure on resources and improve their use.' Waste generated by a project or activity must be dealt with in an environmentally friendly way. To do this it applies the waste hierarchy from the WaFD, which gives an order of preference for how waste is dealt with (prevention, re-use, recycling, recovery, disposal at sea).

3.2.3.2 See consideration under Section 7.

### **3.2.4 The Conservation of Habitats and Species Regulations 2017 (as amended)**

3.2.4.1 'Designated' sites are those designated under The Conservation of Habitats and Species Regulations 2017 (as amended) ("Habitats Regulations") as Special Protection Areas ("SPAs"), Special Areas of Conservation ("SACs") or Sites of Community Importance ("SCIs"). As a matter of Government policy, Ramsar sites are afforded the same level of protection as designated sites under the Habitats Regulations.

3.2.4.2 The process for considering development proposals likely to affect these designated sites is known as Habitats Regulations Assessment (HRA), which takes account of the conservation objectives of the site(s) concerned. The HRA process is carried out by the competent authority; however, the supporting information to be used in the HRA should be provided by the applicant.

3.2.4.3 The applicant submitted the Information to Support a Habitats Regulations Assessment (MOR/RHDHV/DOC/0067(02)) report with the Marine Licence application and ES.

3.2.4.4 The proposal is located within and overlaps with the following designated sites:

- Anglesey Terns SPA
- Holy Island Coast SAC
- Holy Island Coast SPA
- North Anglesey Marine SAC

3.2.4.5 The effects of the proposal on designated sites, their qualifying features and conservation objectives have been considered by NRW PS during the licence determination. The Habitats Regulations allow co-ordination where more than one competent authority is involved (Regulation 67 (2)). This provision provides that a competent authority is not required to assess any implications of a plan or project which would be more appropriately assessed by another competent authority. The landward works of the proposal fall outside the marine licensable area and are assessed as part of the HRA assessment carried out under the Transport & Works Act (TWA) Order. On that basis, it was considered that the implications of the onshore parts of the projects would be more appropriately assessed by the Welsh Ministers and, therefore, only the marine elements (those seaward of MHWS) would be given consideration within the HRA carried out by NRW PS.

3.2.4.6 Within the HRA carried out by NRW PS, a likely significant effect (LSE) from proposed activities seaward of MHWS could not be ruled out on the following sites with marine features:

- Afon Gwyrfa i Llyn Cwellyn SAC
- Bristol Channel Approaches
- Cardigan Bay/ Bae Ceredigion SAC

- Lleyn Peninsula and the Sarnau SAC
- North Anglesey Marine SAC
- North Channel SAC
- Pembrokeshire Marine/ Sir Benfro Forol SAC
- The Maidens SAC
- West Wales Marine SAC
- Aberdaron Coast and Bardsey Island SPA
- Ailsa Craig SPA
- Anglesey Terns SPA
- Copeland Islands SPA
- Grassholm SPA
- Irish Sea Front SPA
- Morecambe Bay and Duddon Estuary SPA
- Morecambe Bay Ramsar
- Ribble and Alt Estuaries SPA
- Ribble and Alt Estuaries Ramsar
- Skomer, Skokholm and the Seas off Pembrokeshire SPA
- Lambay Island SAC
- Lambay Island SPA
- Howth Head Coast SPA
- Ireland's Eye SPA
- Rockabill to Dalkey Island SAC
- Saltee Islands SAC
- Saltee Islands SPA

3.2.4.6 Following application of mitigation measures, including the commitment to a detailed Environmental Mitigation and Monitoring Plan (dEMMP), incorporating the backstop mitigation of device operation cessation if needed, it was concluded that the proposal activities would not lead to an Adverse Effect On Site Integrity, either alone or in-combination, on any marine features of designated sites.

3.2.4.7 Further details are described within the Habitats Regulations Assessment carried out as part of the Marine Licence determination process.

### **3.2.5 Marine Conservation Zones**

3.2.5.1 Section 116 of the Act provides powers to the Welsh Ministers to designate Marine Conservation Zones (“MCZs”) with the aim of contributing to the achievement of a network of ecologically coherent and well-managed marine protected areas.

3.2.5.2 The Project is not within a Marine Conservation Zone and was not identified to have an impact on any Marine Conservation Zone.

### **3.2.6 Wildlife and Countryside Act 1981 (as amended)**

3.2.6.1 Sites of special scientific interest (“SSSIs”) are protected by law to conserve their wildlife or geology. The Wildlife and Countryside Act 1981 (as amended) ensures that SSSIs are protected and managed effectively.

3.2.6.2 Further detail and consideration of SSSIs are captured under Section 7 of this document.

### **3.2.7 Marine Policy Statement and Welsh National Marine Plan**

3.2.7.1 The UK Marine Policy Statement (“MPS”) is the framework for preparing Marine Plans and taking decisions affecting the marine environment. NRW must make licensing decisions in accordance with the MPS and the Welsh National Marine Plan unless relevant considerations indicate otherwise.

3.2.7.2 Within Section 2.3.7.3 of the ES, the Welsh National Marine Plan policies have been summarised and signposting provided to indicate where these were considered within the ES.

### **3.2.8 Environment (Wales) Act 2016**

3.2.8.1 Article 4 of the Natural Resources Body for Wales (Establishment) Order 2012, as amended by the Environment (Wales) Act 2016 requires NRW to pursue the sustainable management of natural resources in relation to Wales, and apply the principles of sustainable management of natural resources in the exercise of its functions, so far as consistent with their proper exercise.

3.2.8.2 NRW considers that the procedures outlined in this Written Confirmation in the consideration of EIA consent are consistent with this requirement.

### **3.2.9 Well-being of Future Generations (Wales) Act 2015**

3.2.9.1 This Act requires NRW, as a public body, to take reasonable steps in exercising its functions to work in accordance with the sustainable development principle, as set out in Section 5 of the Act.

3.2.9.2 NRW considers that the EIA process is consistent with the sustainable development principle described in the Act, and that the processes outlined in this Written Statement are sufficient to properly demonstrate the sustainable development principle. In particular, NRW acknowledges that the principles of sustainable management include taking account of all relevant evidence and gathering evidence in respect of uncertainties, and taking account of the short, medium- and long-term consequences of actions. NRW further acknowledges that it is an objective of sustainable management to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing, meet the needs of present generations of people without compromising the ability of future generations to meet their needs, and contribute to the achievement of the well-being goals in section 4 of the Well-being of Future Generations (Wales) Act 2015.

### 3.3 Further information provided by the applicant pursuant to a notification under Regulation 14(1)

- 3.3.1 NRW PS requested further information from the applicant on the 2 March 2020, this was subsequently received on the 8 July 2020. A list of documents submitted following the further information requested dated 2 March 2020 can be seen in Annex 1.
- 3.3.2 On the 14 October 2020, NRW PS made a second request for further information to the applicant. This information was subsequently received on the 19 February 2021. A list of documents submitted on the 19 February 2021 can be seen in Annex 2.
- 3.3.3 Pursuant to Regulations 16 and 17 of the Regulations, consultation with the public and technical consultees was carried out on the further information submissions, see Sections 4 and 6.

## 4. Consultation with the public

### 4.1 Public Notices

- 4.1.1 Pursuant to Regulation 16, public notices were advertised to notify interested parties of the proposed works and give any interested parties or members of the public an opportunity to make representation on the application as necessary.
- 4.1.2 The application documents were made available as follows:
- A translated public notice was placed in the Holyhead, Anglesey and Bangor Mail, Lloyds List and London Gazette on 27 November 2019 & 4 December 2019; and
  - The application documents were made available to the public at: Anglesey Business Centre, Isle of Anglesey County Council, Bryn Ceni Business Park, Llangefni, Anglesey for 42 days following the publication of the first public notice.
- 4.1.3 118 public representations were received.
- 4.1.4 Following submission of further information detailed in Section 3.3.1, public notices were advertised to notify interested parties of the provision of further information and give interested parties or members of the public the opportunity to make representation on the application and further information submissions as necessary.
- 4.1.5 The application documents and further information submission were made available as follows:
- A translated public notice was placed in the Holyhead, Anglesey and Bangor Mail, Lloyds List and London Gazette on 29 July 2020 & 5 August 2020;
  - In light of the public health situation surrounding Coronavirus, a hard copy of the application and supporting documents were not made available to the public during this period; and
  - Copies of the application documents were made available on NRW webpages.



- 4.1.6 12 public representations were received.
- 4.1.7 Following submission of further information detailed in Section 3.3.2, public notices were advertised to notify interested parties of the provision of further information and give interested parties or members of the public the opportunity to make representation on the application and further information submissions as necessary.
- 4.1.5 The application documents and further information submission were made available as follows:
- A translated public notice was placed in the Holyhead, Anglesey and Bangor Mail, Lloyds List and London Gazette on 17 March 2021 & 24 March 2021;
  - In light of the public health situation surrounding coronavirus a hard copy of the application and supporting documents were not made available to the public during this period; and
  - Copies of the application documents were made available on NRW webpages.
- 4.1.6 15 public representations were received.
- 4.1.7 All representations received from members of the public were dealt with according to Schedule 5 of the Regulations. These are acknowledged within Section 7 of this decision. Representations which were not capable of being dealt with under Schedule 5 are not considered further in this consent decision.

## 5. Consultation of EEA States

- 5.1 A Transboundary Screening Assessment identified the potential for effects to Ireland.
- 5.2 Consequently, notification was provided to Ireland on 06 December 2019 and a Transboundary Notice was placed in the London Gazette on 07 January 2020. No response was received.

## 6. Technical consultation

- 6.1 The marine licence application was consulted upon on 15 November 2019 for a period of 56 days. This period was extended beyond the 42-day period required under Regulation 17 to take account of the Christmas holiday period. It was sent to the following consultation bodies:
- ABPmer<sup>1</sup>
  - Cadw
  - Chamber of Shipping
  - Civil Aviation Authority (CAA)

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<sup>1</sup> NRW PS consulted with ABPmer to provide external advice in relation to underwater noise and how this was addressed within the EIA

- Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA NI)
- Health and Safety Executive (HSE)
- Holyhead Sailing Club
- Isle of Anglesey County Council (IACC)
- Joint Nature Conservation Committee (JNCC)
- Local Biodiversity Officers (LBO) for Anglesey County Council
- Local Harbour Authority Stenaline
- Marine Management Organisation (MMO)
- Maritime and Coastguard Agency (MCA)
- Ministry of Defence (MoD)
- National Federation of Fishermen's Organisations (NFFO)
- Natural England (NE)
- Natural Resources Wales Technical Experts (NRW TE)
- NERL Safeguarding
- Ofcom
- Planning Inspectorate Wales (PIW)
- Royal Society for the Protection of Birds (RSPB)
- Royal Yachting Association (RYA)
- Scottish Natural Heritage (SNH)
- Isle of Man Government
- Snowdonia National Park Authority
- The Crown Estate (TCE)
- The Environment Agency (EA)
- The Royal Commission of Historic Monuments Wales (RCHMW)
- Trinity House (TH)
- UK Department for Business, Energy and Industry Strategy (BEIS)
- UK Department of Transport
- Welsh Archaeological Trust (WAT)
- Welsh Government Energy Branch
- Welsh Government Fisheries Branch and Marine Enforcement Officers (MEO)
- Welsh Government Marine Branch.

## 6.2 The following organisations submitted comments:

- ABPmer
- Cadw
- Chamber of Shipping
- Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA NI)
- Isle of Anglesey County Council (IACC)
- JNCC
- Maritime and Coastguard Agency (MCA)
- Ministry of Defence (MoD)
- Natural England (NE)
- NRW Technical Experts (NRW TE)
- Royal Yachting Association (RYA)

- RSPB
- Trinity House (TH)
- UK Department for Business, Energy and Industry Strategy (BEIS)
- Welsh Archaeological Trust (WAT)
- Welsh Government Fisheries Branch and Marine Enforcement Officers (MEO).

6.3 Following submission of further information detailed in Section 3.3.1, the marine licence application and further information was consulted upon on the 22 July 2020 for a period of 42 days in accordance with Regulation 17. Consultation took place with the consultation bodies detailed in section 6.1. In addition, the Welsh Fishermen's Association (WFA) was consulted.

6.4 The following organisations submitted comments:

- ABPmer
- Cadw
- Isle of Anglesey County Council (IACC)
- JNCC
- Maritime and Coastguard Agency (MCA)
- Ministry of Defence (MoD)
- NERL Safeguarding
- NRW Technical Experts (NRW TE)
- Royal Yacht Association (RYA)
- RSPB
- Trinity House (TH)
- UK Department for Business, Energy and Industry Strategy (BEIS)
- Welsh Archaeological Trust (WAT)

6.5 Following submission of further information detailed in Section 3.3.2 the marine licence application and further information was consulted upon on the 3 March 2021 for a period of 42 days in accordance with Regulation 17. Consultation took place with the consultation bodies detailed in section 6.2. In addition, the Welsh Fishermen's Association (WFA) was consulted.

6.6 The following organisations submitted comments:

- Chamber of Shipping
- Isle of Anglesey County Council (IACC)
- JNCC
- Maritime and Coastguard Agency (MCA)
- Ministry of Defence (MoD)
- Natural England (NE)
- NERL Safeguarding
- NRW Technical Experts (NRW TE)
- Royal Yacht Association (RYA)
- RSPB
- Trinity House (TH)

- UK Department for Business, Energy and Industry Strategy (BEIS)
- Welsh Archaeological Trust (WAT)

6.8 Details of the issues raised by the technical consultation bodies and how they have been addressed is set out in Section 7 of this document.

6.9 Consultees who did not provide a response were assumed to have no comment.

## **7. Issues arising during the consideration of the Environmental Statement, Marine Licence Application and representations received**

7.0 Material issues that were highlighted by the ES and consultation process and the extent to which they have been addressed are detailed in this section.

### **7.1 Introduction**

7.1.1 Over the course of the consultations, concerns were raised by the technical consultees and the public in relation to the clarity around the Project Design Envelope (PDE) and, in particular, the details of the first phase of device deployment (Phase 1). A Rochdale Envelope approach has been used by the applicant which assesses against realistic worst-case scenarios for device type, location, etc. (see Section 2.1). Due to the nature of the project being a test site for emerging tidal stream turbine technologies, it was not possible at the application stage for the applicant to provide definitive details on the technologies, precise locations and number of devices. Such details will only become available once the technologies intend to deploy at the site are known. As an emerging renewable energy sector, tidal stream technology is quickly evolving and thus the specifications of given technologies may change in the near future.

7.1.2 NRW PS considered the applicant's approach, the nature of the development and the PDE and have concluded that a PDE approach is appropriate for a development of this type. This approach, according to the applicant, provides the necessary flexibility for the project to progress while maintaining confidence that the assessment is suitable and has considered against realistic worst-case scenarios.

7.1.3 In recognition of the scientific uncertainty that exists in relation to tidal stream technology and its potential effects on certain ecological receptors (e.g. collision risks to diving birds, marine mammals and fish), adaptive management has been proposed by the applicant for this project. Adaptive management is generally understood to be a systematic and iterative approach allowing management of a project to be adapted based on learning once the development has been installed or constructed. Such an approach can in principle enable a development to proceed, in phases or otherwise, by reducing the risks associated with scientific uncertainties and ensuring adverse impacts on site integrity will be avoided.

## Environmental Mitigation and Monitoring Plan (EMMP)

- 7.1.4 An outline Environmental Mitigation and Monitoring Plan (EMMP) was submitted by the applicant in support of the ES, to demonstrate how the potential effects of the project on specific ecological receptors can be mitigated and monitored. Key elements of the proposed EMMP include that:
- Phase 1 and any subsequent phases, can only proceed at a scale that ensures no significant impact is predicted, based on best available evidence.
  - The scale of each phase, including Phase 1, will be agreed with NRW PS prior to deployment.
  - Appropriate and effective monitoring methods will be agreed with NRW PS prior to operation of tidal devices. Monitoring will provide essential information to inform the potential to scaling up of the next phase, but also to determine if and to what level additional mitigation is required during the current phase of operation.
  - Appropriate and effective mitigation will be agreed with NRW PS post-consent to prevent a significant adverse effect from occurring. Mitigation will include the stopping or removal of tidal devices where no other effective mitigation option is possible.
  - Deployment of any future phases will be dependent on the outcome of monitoring carried out.
- 7.1.5 The outline EMMP has undergone multiple iterations during the consultation process. Detail around the monitoring and mitigation measures provided within v.10 of the outline EMMP is deemed acceptable. NRW PS considers that the provisions and commitments of the outline EMMP (v.10) provide enough confidence that a significant adverse effect on marine mammals, and diving birds can be avoided, whilst acknowledging the flexibility of the project description afforded through the Rochdale Envelope assessment approach. Key to the acceptance of the outline EMMP by NRW PS is the phasing of the development, with the commitment that Phase 1 and any subsequent phases, will only proceed at a scale that ensures no adverse impact is predicted. Requirements in the marine licence for establishing monitoring programmes for marine mammals and diving birds (post-consent) will assist in reducing uncertainty and inform efficacy of certain mitigation measures (e.g. acoustic deterrents for mammals; visual deterrents for seabirds etc.). An appropriate monitoring methodology will need to be approved with the regulator prior the operation of any device. NRW PS consider that these mechanisms, as maintained through the EMMP, can be secured through provision of appropriate conditions in a marine licence.
- 7.1.6 Through the outline EMMP (v.10) and the commitment by the applicant to a detailed EMMP post-consent, NRW PS conclude upon the basis of the monitoring and mitigation measures detailed in the EMMP that Adverse Effect On Site Integrity, either alone or in-combination, on any marine features of designated sites (Section 3.2.4) can be ruled out. As a safeguard, this could result in cessation of turbine operation and/or removal of turbines to avoid adverse effect on site integrity. Suitable monitoring methods are essential to identify if and how mitigation needs to be applied and to assist in reducing scientific uncertainty around collision risk.



- 7.1.7 Marine mammal collision limits have been provided by the applicant in the outline EMMP (v.10). These collision limits do not represent the point at which mitigating action should first occur but rather the point at which any further impact must be prevented. Thus, ensuring no further risk to the species from the operation of the device(s). Deployment of devices will be allowed/permitted if NRW PS can be confident that no significant adverse effect will occur to diving seabirds or marine mammals.
- 7.1.8 The detailed EMMP, which would be secured under condition to the marine licence, will require approval by NRW PS before the deployment of Phase 1 can proceed. Acknowledging the iterative nature of adaptive management, the detailed EMMP will use the results of monitoring programmes to evolve as the project progresses. Information gathered pre-operation and during operation will feed into the evolution of the detailed EMMP and measures adapted accordingly, following approval from the regulator. NRW PS are satisfied that these measures/mechanisms, in the EMMP, can be secured through provision of appropriate conditions in any marine licence issued, ensuring that an Adverse Effect on Site Integrity (AEOSI) can be ruled out
- 7.1.9 The measures within the outline EMMP (v.10) satisfy NRW PS that potential impacts upon ecological receptors would not lead to an adverse effect on the integrity of designated sites. Clear reference is provided to the mechanisms and measures of the EMMP which underpin specific assessment conclusions within the Fish and Shellfish Ecology, Marine Ornithology and Marine Mammal topics which follow.
- 7.1.10 NRW PS are satisfied that all works assessed fall within the PDE parameters and that adherence to an adaptive management plan, as maintained by the mechanisms given in the EMMP, can be secured through the provision of appropriate conditions in any marine licence issued.

## **7.2 Metocean Conditions and Coastal Processes**

- 7.2.1 NRW TE raised a number of issues in relation to this topic. Concerns were also raised through the public representations received in January 2020, September 2020 and April 2021. The main issues included:
- the requirement for a sediment transport and sediment dispersion assessment;
  - inadequacy of the hydrodynamic modelling and the requirement for wave modelling;
  - increased baseline characterisation of the sedimentary environment;
  - greater detail on the sedimentary bedforms, specifically the large sand ridge to the north of the development zone;
  - the requirement for a clearer definition of 'near' and 'far' fields;
  - concerns around the quality of data gathered through Acoustic Doppler current profiler (ADCP);
  - the validity of wave data obtained from the Met Office; and
  - The lack of provision of the Partrac (2018) hydrographic and geophysical survey report.

- 7.2.2 Consequently, NRW TE were unable to agree with a number of the assessment conclusions until additional information was provided and the assessments revisited.
- 7.2.3 Furthermore, NRW TE noted inconsistencies with the consideration of relevant plans/proposals for assessment of in-combination and cumulative effects.
- 7.2.4 To address the issues raised, the applicant submitted further information and justifications. Key information included the following:
- A sediment transport modelling and wave modelling (MOR-HRW-DOC-0001).
  - Results of modelling discussed in context of ES conclusions (MOR-RHDHV-DOC-0112).
  - Consideration of sediment dispersal, sediment characterisation and near field and far field effects in Metocean and Physical Processes ES Supplementary Note (MOR-RHDHV-DOC-0111).
  - The agreement from the applicant that the export cable will be laid to bypass the large sand ridge to the north of South Stack avoiding jetting of the large sand ridge for cable burial (MOR-RHDHV-DOC-0111).
  - Additional numerical modelling (MOR-RHDHV-DOC-0112) which includes details of ADCPs and their use in calibration.
  - Additional ADCP information from two new locations to add to tidal analysis and calibrate the model and the use of these data following the International Electrotechnical Commission guidelines (IEC TS 62600-601).
  - The Partrac (2018) operation and survey reports provided (MOR-RHDHV-DOC-0137 and MOR-RHDHV-DOC-0139).
  - Provision of the HR Wallingford Report 'Further information on predicted changes in waves and currents' (MOR-HRW-DOC-0002) specifically to assist discussions with kayakers.
- 7.2.5 Following further information, justifications and clarifications from the applicant, it was concluded by NRW TE that a considered appraisal of the impacts could be reached with the baseline characterisation being greatly expanded upon, which allowed an informed view on possible impacts of the construction and operation scenarios. This included confirming the project's zone of influence, consideration of all protected sites that are located within this zone of influence and concluding that any direct impacts to the large sand ridge feature could be discounted, following commitment from the applicant that the export cable will bypass the large sand ridge north of South Stack.
- 7.2.6 Concerns previously raised by NRW TE around cumulative impacts with Holyhead Port proposals have been addressed by the applicant within a supplementary note (PB5034-RHD-ZZ-XX-NT-Z-1008) provided as Appendix 1 within the CIA addendum (MOR-RHDHV-DOC-0133a). NRW TE agreed with the assessment conclusion of 'negligible impact'.

- 7.2.7 NRW PS note that the applicant has committed to carry out monitoring, in agreement with NRW TE, to assist with validation of the complex modelling outputs. Further detail on this commitment is provided in Section 8 of this document.
- 7.2.8 NRW PS are satisfied that the concerns raised by NRW TE and through the public representations, have been sufficiently addressed by the applicant within the ES and supplementary documentation and that the impact on coastal processes has been adequately assessed. NRW PS consider that mitigation to avoid direct impact to the large sand ridge, and for monitoring changes to coastal processes can be secured through the provision of appropriate conditions in any marine licence issued.

### 7.3 Marine Water and Sediment Quality

- 7.3.1 NRW TE raised a number of issues in relation to this topic. Concerns were also raised about potential pollution impacts during public representations received in December 2019, January 2020 and April 2021. The main issues raised included:

- The need to consider potential water quality impacts to the east of Holy Island.
- Further details required on the Holyhead Strait and Holyhead Bay coastal waterbodies.
- Potential impacts on water quality from land-based sources required consideration.
- The WFD assessment was inadequate and not conforming with required context.
- Inadequacy of hydrodynamic modelling leading to insufficient information to determine potential effects of the development.
- Clarification needed on cable contents and whether there is a risk to the marine environment.
- Clarification needed on suspended sediment concentrations and an assessment for the potential change to Suspended Sediment Concentrations (SSC).
- Greater understanding of how suspended sediment and contaminants will be mitigated in relation to surface water runoff to the Beddmanarch Bay Shellfish Water and Holyhead Strait WFD waterbody.

- 7.3.2 To address the issues raised, the applicant submitted further information and justifications. Key information included:

- An amended WFD Compliance Assessment (MOR-RHDHV-APP-00126a) (see Appendix 8.1 of the ES), providing an updated assessment and conforming to required context.
- Consideration of the assessments in relation to the additional physical process modelling (as per requirements for coastal processes), specifically the sediment transport modelling and wave modelling, the sediment dispersion, and the results of the modelling in the context of the ES conclusions (MOR-HRW-DOC-0001 and MOR-RHDHV-DOC-0111 and MOR-RHDHV-DOC-0112).

- Consideration of the Beddmanarch Bay Shellfish Water, Holyhead Strait waterbody and Holyhead Bay waterbody within the WFD assessment (MOR-RHDHV-APP-00126a).
- Assessing the potential in combination and/or cumulative impacts, including consideration of the potential cumulative effects with Holyhead Port and the conclusion that the risk of deterioration on the Caernarfon Bay North coastal water body (and all other relevant water bodies) can be ruled out.
- Technical detail on the cable contents (MOR-RHDHV-DOC-0129).
- Clarification that runoff from terrestrial construction and operational activities will be controlled by best practice mitigation measures embedded into the design and secured through a Code of Construction Practice (CoCP).
- Clarification on the worst-case volume of suspended sediment generated by foundation installation drilling.

7.3.3 Following the provision of further information NRW TE confirmed that their outstanding concerns regarding this topic had been addressed. NRW PS are satisfied that the concerns raised by NRW TE and public representations have been sufficiently addressed by the applicant. This includes acknowledgement to the measures prescribed within the outline Pollution Prevention and Management Plan (PPMP) (MOR-RHDHV-DOC-0077) and outline Construction Environmental Management Plan (CEMP) (MOR-RHDHV-DOC-0073). NRW PS also acknowledge the outline CoCP (MOR-RHDHV-DOC-0076) which includes consideration of surface water and drainage, in addition to mitigation to prevent an increase in supply of sediment and contaminants into the coastal water bodies which receive drainage from the onshore proposal.

7.3.4 NRW PS are satisfied that the concerns raised in relation to Marine Water and Sediment Quality have been adequately addressed and that sufficient assessment has been carried out. NRW PS consider mitigation will be required, namely adherence to the PPMP, CEMP and CoCP. NRW PS consider that finalising the details of the PPMP, specifically in relation to the Marine Pollution Contingency Plan, and CEMP can be secured through appropriate conditions to the Marine Licence.

7.3.5 NRW PS note that the Welsh Minister for Climate Change is 'minded-to' make the TWA Order and grant deemed planning permission subject to the planning conditions (as specified) and amendments (reference qA1346892). This includes the requirement for a CoCP which encompasses a surface water drainage plan.

## 7.4 Benthic Ecology

7.4.1 NRW TE raised a number of issues in relation to this topic. Issues were also raised through public representations received in December 2019, January 2020, August 2020, September 2020, March 2021 and April 2021. The main issues raised included:

- Concerns that a number of Annex I and Section 7 habitats have not been adequately assessed. Issues in relation to adequacy of the habitat characterisation survey work questioned the validity of the assessment conclusions and the viability of the proposed mitigation.

- Lack of adequate coastal process modelling to understand the potential effects of the proposal on benthic features beyond the direct footprint.
- The feasibility of micro-siting and its effectiveness as suitable mitigation to minimise impacts on sensitive Annex I and Section 7 habitats, including the biogenic *Sabellaria* reef feature.
- Disagreement that the direct or indirect habitat loss impacts should be downgraded from moderate to minor adverse following post-consent mitigation measures (i.e. high-resolution benthic surveys to inform placement and micro-siting).
- Consideration that the impact magnitude on reef habitats given by the applicant should be increased from 'low' to 'medium'.
- Specific consideration of potential cumulative effects with Holyhead Port expansion project as a consequence of overlapping sediment transport pathways and potential for increased sedimentation on benthic features.
- The requirement to complete a biosecurity risk assessment and management plan before the commencement of works.

7.4.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- The provision of document MOR-RHDHV-DOC-0113 which responds to NRW TE concerns received during the first consultation.
- Consideration of the assessments in relation to the additional physical process modelling (as per requirements for coastal processes), specifically the sediment transport modelling and wave modelling, the sediment dispersion and the results of the modelling in the context of the ES conclusions (MOR-HRW-DOC-0001 and MOR-RHDHV-DOC-0111 and MOR-RHDHV-DOC-0112). The modelling outputs concluding that the project would have minimal impacts on sediment transport.
- Recognition that the ephemeral nature of sensitive *Sabellaria* biogenic features is better addressed through higher resolution post-consent/pre-construction surveys, allowing up to date information on its presence, informing the placing of infrastructure and micro-siting.
- Reaffirming the expectation that as micro-siting should be possible up to 100m away from initial locations, this will allow devices to be located away from sensitive benthic features in most cases, thereby maintaining a magnitude of 'low' and an impact of minor adverse on Annex I and OSPAR/Section 7 features as a result of habitat loss/degradation.
- Provision of an outline Marine Biodiversity Enhancement Strategy (MOR-RHDHV-DOC-0164), detailing mitigation to offset potential loss of sensitive features (i.e. Annex I, OSPAR, or Section 7) where micro-siting is not feasible.
- Supplementary information (MOR-RHDHV-DOC-0133(02)) assessing cumulative impacts with Holyhead Port Expansion, in light of an addendum submitted by the Holyhead project, concluding a negligible impact due to minimal overlap of sediment transport pathways and the highly dispersive nature of the Holyhead North disposal site.



- The commitment to develop the outline Invasive Non-native Species Management Plan (MOR-RHDHV-DOC-0075) post-consent into a final plan to be agreed with NRW prior to construction.

7.4.3 Following the provision of further information, NRW TE confirmed they were satisfied with the applicant's approach in relation to benthic ecology receptors. NRW TE agree with the proposals set out in the outline Marine Biodiversity Enhancement Strategy. NRW TE agrees with the need to provide further detail on pre-construction surveys, micro-siting and mitigation that would offset the potential loss of Annex 1 marine habitats and/or OSPAR/Section 7 habitats potentially impacted by the project. NRW TE advised on the need for pre-construction surveys to identify the spatial extent of sensitive habitats and to inform the placing of infrastructure, such as tidal devices, associated infrastructure and cabling.

7.4.4 NRW PS are content that the potential impacts, along with the concerns raised by NRW TE and through the public representations have been sufficiently addressed by the applicant. NRW PS consider that the impact on benthic and intertidal receptors has been sufficiently assessed. As part of the mitigation the applicant will be required to produce and implement a detailed Marine Biodiversity Enhancement Strategy and an Invasive Non-native Species Management Plan pre-construction. NRW PS consider that these measures can be secured through appropriate conditions to the marine licence.

## 7.5 Fish and Shellfish Ecology

7.5.1 NRW TE raised a number of issues in relation to this topic. Issues were also raised by ABPmer in relation to the potential effects of underwater noise on fish and shellfish, and through public representations received in December 2019, January 2020 and September 2020. The main issues raised included:

- The need for consideration of the potential effects of particle motion on fish and shellfish.
- The need to consider the potential for turbine structures to act as Fish Aggregating Devices (FAD).
- The lack of information around fish migration routes and the requirement to consider the passage of migratory fish through the development area and the potential effects on these fish. Specifically, the risk of collision with migratory fish (Atlantic salmon) from the nearest designated site to the development (Afon Gwyrfa a Llyn Cwellyn SAC).
- Significant gaps in terms of underwater noise leading to inadequate application of impact methods, including the lack of site-specific noise modelling.
- The need for consideration of potential effects of electromagnetic fields (EMF) on fish and shellfish.

7.5.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Consideration of the potential effects from particle motion on fish and shellfish (MOR-RHDHV-DOC-0114) concluding that any impact from particle motion will not be significant to populations of fish and shellfish.
- Consideration of the potential for turbine structures to act as Fish Aggregating Devices (FAD) (MOR-RHDHV-DOC-0114) and the identification of this as an evidence gap dependent on defined research.
- Provision of Additional Information to Support Morlais Habitats Regulations Assessment (migratory fish) (MOR-MSP-DOC-003).
- Additional site-specific underwater noise modelling (MOR-RHDHV-DOC-0116) and accompanying documents on how the modelling relates to assessments carried out on fish (MOR-RHDHV-DOC-0127a) and marine mammals (MOR-RHDHV-DOC-0117).
- Acknowledgment of the potential effects of EMF on fish and shellfish (MOR-RHDHV-DOC-0114) concluding that the potential effect would be minor adverse.

7.5.3 NRW PS note the confirmation by ABPmer that gaps previously identified in fish and shellfish ecology assessment have been addressed and or justified. ABPmer acknowledge the detailed review of the potential effects of particle motion on fish and shellfish (MOR-RHDHV-DOC-0114) and have agreed with the conclusions of the review.

7.5.4 NRW PS acknowledge the additional document provided by the applicant in relation to migratory fish (MOR-MSP-DOC-003) and the subsequent agreement by NRW TE that there will be no adverse effect on site integrity in relation to migratory fish species, from the proposal. This aligns with the conclusions of the HRA carried out by NRW PS. It is also noted that no significant effects on migratory fish were predicted in the ES.

7.5.5 NRW PS and NRW TE consider the concerns and points of clarification to be adequately addressed. NRW PS agree with the conclusion of a 'minor adverse' impact on fish and shellfish from the proposal.

7.5.6 Impact on migratory fish are assessed/addressed in the outline EMMP (v.10) and the commitment to use data collected through the monitoring measures to better understand the collision risk upon migratory fish. Although the outline EMMP is not a finalised document, commitment from the applicant to provide a detailed EMMP post-consent that accords with the requirements of the outline EMMP, as provided pre-consent, will be secured through the appropriate condition to the marine licence.

7.5.7 NRW PS are satisfied that the potential impacts, along with the concerns raised by NRW TE and through the public representations, have been sufficiently addressed by the applicant.

## 7.6 Marine Ornithology

7.6.1 NRW TE raised a number of issues in relation to this topic. Issues were also raised by RSPB, particularly in relation to the potential effects on diving birds (Guillemot and Razorbill) and through public representations received in December 2019,

January, August and September 2020, March and April 2021. The main issues included:

- The need for detailed engagement with NRW TE and RSPB to discuss the predicted impacts on auk species.
- Concerns about the high Guillemot and Razorbill predicted annual mortality numbers presented in the 240MW full build out scenario resulting in the assessment of a major adverse effect without application of mitigation.
- The lack of evidence around bird collisions with tidal turbines leading to uncertainty.
- Concerns that monitoring and mitigation measures proposed for diving birds were not adequate.
- Concerns that the monitoring methods and techniques proposed for diving seabirds are not realistic and/or suitable.
- The need for greater detail and commitments around measures for monitoring diving seabirds.
- The need for greater detail and commitments around measures for mitigating impacts on diving seabirds, including the commitment to phasing deployment of turbines.
- The need for further collision modelling to understand the predicted impacts at a smaller scale of deployment than 40MW.

7.6.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Engagement with NRW TE and RSPB by the applicant during the application process and the commitment to continue engaging during development of the detailed EMMP post-consent.
- Explanation and justification regarding the assessment of ornithology carried out including the Proof of Evidence Rebuttal Ornithology (MOR-RHDHV-DOC-0166).
- The commitment within the outline EMMP (v.10) to phase deployment, with 'scaling up' only proceeding if there is sufficient confidence that no significant impact will occur (see Section 7.1 for further detail of the EMMP).
- The commitment within the outline EMMP (v.10) that initial device deployment (Phase 1) will only proceed if there is agreement with NRW PS that no significant adverse effect on diving seabirds will occur.
- The commitment within the outline EMMP (v.10) that effective monitoring of diving seabirds will be in place to inform implementation of the EMMP before device operation can commence.
- The commitment within the outline EMMP (v.10) to monitor diving seabirds during turbine operation. Using the monitoring results to refine collision and encounter risk modelling parameters for seabirds, indicate when and where appropriate mitigation should be applied and help reduce impact uncertainty.
- The commitment within the outline EMMP (v.10) to demonstrate and, where appropriate apply, varied mitigation measures to prevent significant adverse effects on diving seabirds.
- Agreement to develop a detailed EMMP post-consent that builds upon the outline EMMP (v.10) the content of which will be implemented by the

applicant pre-deployment and during operation, as appropriate and allowing for future iterations informed from monitoring outputs.

- Provision of a Collision Risk Modelling (CRM) note (MOR-RHDHV-DOC-0115) providing evidence that the populations of Guillemots and Razorbills at South Stack can still increase their populations during the indicative first phase of the project.

- 7.6.3 NRW PS consider that sufficient justification has been provided by the applicant on the assessment approach and that the applicant has appropriately assessed the worst-case scenario within the ES.
- 7.6.4 If full deployment took place (240MW), a potential for a major adverse effect on Guillemot and Razorbill populations has been predicted due to the collision risk with tidal turbines. The applicant has proposed to mitigate the potential adverse impacts by proceeding with the regulated activity in phases using an adaptive management approach. Therefore, the deployments of the initial phase and any further deployments (scaling-up), will only occur at a scale that will not lead to an adverse effect on diving seabirds in line with the proposed EMMP (as detailed in Section 7.1).
- 7.6.5 Due to the nature of the proposal as a test site for turbine technologies, the applicant is not able to provide the exact detail of the first phase in support of this application (i.e., prior to consent being given). This includes type of device, number of devices and their location. Therefore, as part of the commitments within the outline EMMP (v.10), it is noted that the scale of the initial phase of deployment will be determined by the outcome of additional collision and encounter risk modelling for both marine mammals and diving birds once further details are known, post-consent. Deployment will only proceed at a scale where NRW PS can agree that no significant adverse effects will occur. NRW PS consider that this mitigation will be required and can be secured through the provision of appropriate conditions in any marine licence issued.
- 7.6.6 The phased approach to the proposal provides for monitoring and analysis of data to inform the refinement of collision models and review the potential effects of further deployment (scaling-up) on diving seabirds, marine mammals and migratory fish. As detailed in paragraph 39 of the outline EMMP (v.10), '*...if the results of monitoring of the first phase of deployment indicate that the next phase of deployment could begin without an adverse effect on marine mammals or birds, then the next phase of deployment would be authorised for deployment*'. The monitoring would also inform whether additional mitigation is required during the current phase.
- 7.6.7 During the consultation process, concerns were raised over the efficacy of proposed monitoring techniques. The applicant has presented potential monitoring and mitigation options within the outline EMMP (v.10). The outline EMMP (v.10) commits that no device operation will take place until it has been demonstrated and agreed with NRW PS that effective monitoring is in place. NRW PS consider that this commitment is required and can be secured through the provision of appropriate conditions in any marine licence issued.

- 7.6.8 NRW PS note the closing statement by NRW TE at the TWA Order Morlais public inquiry: *'NRW does not expect the potential impact on birds to be monitored in exactly the same way as the impact on marine mammals. Rather, the extent of monitoring should be appropriate (and proportionate) to the extent of protection afforded by law and policy.'* NRW TE also consider that the position regarding monitoring is set out adequately for the purposes of the outline EMMP (v.10) in paragraph 100: *'Monitoring will be sufficient to differentiate between inanimate objects and marine mammals, but also to discriminate between diving seabirds, dolphin species, porpoise and seals. If it is not possible to determine what has collided with the device, then the 'worst case scenario' will be assumed, i.e. that the collision was with the species with the lowest collision limit'.*
- 7.6.9 The applicant proposes that the appropriate use of monitoring methods and their application will be confirmed with NRW PS during development of the detailed EMMP pre-deployment of turbine devices (as discussed in Section 7.1). NRW PS consider that this can be secured through the provision of appropriate condition in any marine licence.
- 7.6.10 To finalise the development of the detailed EMMP, the applicant commits within the outline EMMP (v.10) to engage with relevant stakeholder and experts including NRW TE and RSPB. Final approval of the detailed EMMP will be required from the NRW PS.
- 7.6.11 The applicant predicts that as more evidence is gathered through monitoring of the initial deployment (Phase 1), the initial assessment will be found to be precautionary, therefore, allowing consideration to scaling-up without leading to a significant impact on diving seabird populations. Both NRW TE and RSPB have highlighted that the interaction of birds with tidal devices is largely unknown so it is not possible to conclude at this stage whether the assessment carried out is precautionary and thus whether scaling-up will be possible. Having regard to the views of the applicant and consultees, NRW PS considers that scaling up can/could only be permitted if the applicant is able to demonstrate, using the monitoring, that the next phase of deployment could proceed without significant adverse effect (outline EMMP v.10). Should monitoring data indicate at any point that a potential significant adverse impact on marine mammals or bird populations is likely to occur, then additional mitigation will be applied in line with the agreed detailed EMMP (Section 7.1). NRW PS consider that these mechanisms can be secured through the provision of appropriate conditions in any marine licence.
- 7.6.12 In light of the above, NRW PS are content that the potential impacts on seabird receptors have been sufficiently addressed by the applicant within the ES and supplementary documentation. NRW PS consider that mitigation required through production of a detailed EMMP and adherence to the commitments within the document can be secured through the provision of an appropriate condition in any marine licence issued.

## 7.7 Marine Mammals

- 7.7.1 NRW TE raised a number of issues in relation to this topic. Concerns were also raised by ABPmer, in relation to the potential effects of underwater noise on marine



mammals, by JNCC and through public representations received in December 2019, January and September 2020, March and April 2021. The main issues included:

- The potential for the project to cause an adverse effect on site integrity for several SACs through collision impacts on marine mammal qualifying features (i.e. bottlenose dolphin, harbour porpoise and grey seal).
- The potential for the project to cause an adverse effect on site integrity to North Anglesey Marine SAC through noise disturbance (device operation and/or ADDs) on the harbour porpoise qualifying feature.
- The lack of evidence around marine mammal collision risk with tidal turbines.
- The lack of evidence around potential operational noise effects from tidal turbines on marine mammals.
- The lack of detail around Phase 1 leading to uncertainty that adverse effects would be avoided at the initial phase.
- Uncertainty around assessment predictions using the outputs from collision risk, encounter rate and underwater noise modelling
- Concerns around the mitigation measures proposed and how they could be implemented in adequate time to avoid an adverse effect from occurring on marine mammals.
- The need for greater detail and commitments around measures for monitoring marine mammals.
- The need for greater detail and commitments around measures for mitigating impacts on marine mammals, including the commitment to phasing deployment of turbines.

7.7.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Engagement with NRW TE by the applicant during the application process and the commitment to continue engaging with NRW TE and NRW PS during development of the detailed EMMP post-consent.
- The commitment within the outline EMMP (v.10) to phased deployment, with 'scaling up' only proceeding if confident that no significant impact will occur (see Section 7.1 for further detail of the EMMP).
- The commitment within the outline EMMP (v.10) that initial device deployment (Phase 1) will only proceed if there is agreement with NRW PS that no significant adverse effect on marine mammals will occur.
- The commitment within the outline EMMP (v.10) that effective monitoring of marine mammals, is in place to inform implementation of the EMMP before device operation can commence.
- The commitment within the outline EMMP (v.10) to monitor marine mammals during turbine operation. Using the monitoring results to refine collision and encounter risk modelling parameters for marine mammals to indicate when and where appropriate mitigation should be applied and help reduce the impact of uncertainty.
- The applicant's commitment within the outline EMMP (v.10) to carry out additional collision risk and encounter rate modelling post-consent once the technology to be deployed is confirmed and fully detailed. This will inform

Phase 1 deployment and, using monitoring results, the scale of future deployments.

- The applicant's commitment within the outline EMMP (v.10) to carry out additional underwater noise modelling post-consent to allow a more realistic assessment based on the likely operational devices and Acoustic Device Deterrents (ADDs) once more detail is known.
- The commitment within the outline EMMP (v.10) to demonstrate and, where appropriate, apply varied mitigation measures to prevent significant adverse effects on marine mammals.
- Additional wording to the outline EMMP (v.10) to acknowledge NRW advise and strengthen the adaptive management mechanisms within the outline EMMP, including the commitment to cease operation and prevent collision impacts with devices from resulting in a significant effect on marine mammals
- Agreement by the applicant to develop a detailed EMMP post-consent based on the outline EMMP (v.10). This will be an evolving document informed from monitoring outputs and the best available scientific information, the content of the detailed EMMP will be updated as the project progresses following agreement with NRW PS.
- The applicant's commitment to develop, in consultation with NRW, a Marine Mammal Mitigation Protocol (MMMP) pre-construction based on the best available information, methodologies, industry best practice, latest scientific understanding, current guidance and detailed project design. This is to ensure that no injury of marine mammals occurs during the construction phase.
- Provision of an Additional Collision Risk Modelling note (MOR-RHDHV-DOC-0118).
- Provision of an Underwater Noise Modelling report (MOR-RHDHV-DOC-0116) and Marine Mammals Underwater Noise Modelling note (MOR-RHDHV-DOC-0117).
- Provision of "Potential for Underwater Noise from Operational Turbines to significantly Disturb Marine Mammals" note (MOR-RHDHV-DOC-0168).

7.7.3 At the time of the marine licence application, NRW PS agree that if full deployment took place (240MW) there is potential for an adverse effect on site integrity as a consequence of collision impacts on bottlenose dolphin, harbour porpoise and/or grey seal with tidal turbines. The applicant has proposed to mitigate the potential adverse impacts by proceeding with the regulated activity in phases using an adaptive management approach. Therefore, the deployments of the initial phase and any further deployments (scaling-up), will only occur at a scale that will not lead to an adverse effect on marine mammals in line with the proposed EMMP (as detailed in Section 7.1).

7.7.4 Due to the nature of the proposal as a test site for turbine technologies, the applicant is not able to provide the exact detail of the first phase in support of this application (i.e. prior to consent being given). This includes type of device, number of devices and their location. Therefore, as part of the commitments within the outline EMMP (v.10) it is noted that the scale of the initial phase of deployment will be determined by the outcome of additional collision and encounter risk modelling for both marine mammals and diving birds once further details are known, post-consent. Deployment will only proceed at a scale where NRW PS can agree that no significant

adverse effects will occur. NRW PS consider that this mitigation will be required and can be secured through the provision of appropriate conditions in any marine licence issued.

- 7.7.5 The phased approach to the proposal provides for monitoring and analysis of data to inform the refinement of collision models and review the potential effects of further deployment (scaling-up) on diving seabirds, marine mammals and migratory fish. As detailed in paragraph 39 of the outline EMMP (v.10), *'...if the results of monitoring of the first phase of deployment indicate that the next phase of deployment could begin without an adverse effect on marine mammals or birds, then the next phase of deployment would be authorised for deployment'*. The monitoring would also inform whether additional mitigation is required during the current phase.
- 7.7.6 As with all potential phases of deployment, including the initial phase, NRW PS note that the outline EMMP (v.10) commits to only allowing devices to be deployed if, *'Regulators agree that the best available scientific understanding does not predict adverse impacts upon marine mammals or upon non-SPA populations of diving seabirds from local colonies.'* NRW PS are satisfied with the applicant's commitment that Phase 1 of deployment will be defined by the Potential Biological Removal (PBR) for bottlenose dolphin and the species collision limits agreed with NRW TE subject to the best available scientific understanding pre-deployment (outline EMMP v.10). This approach will ensure no significant adverse effect will occur on marine mammals during the initial phase.
- 7.7.7 The applicant has presented potential monitoring and mitigation options within the outline EMMP (v.10) and the Marine Mammals Monitoring and Mitigation Options document (MOR/RHDHV/DOC/0119). While concerns remain with NRW TE that the monitoring technologies currently available to detect animal collisions may not be able to determine the marine mammal species, or potentially discriminate between diving seabirds or marine mammals, the applicant has committed within the EMMP to a worst-case scenario, i.e., that the collision was with the species with the lowest collision limit. Similarly, the worst-case scenario will be applied if the severity of any injury upon an animal cannot be reliably confirmed and it will be assumed that the collision has resulted in death. In addition, the outline EMMP (v.10) commits that no device operation will take place until it has been demonstrated and agreed with NRW PS that effective monitoring is in place. NRW PS consider that this commitment will be required and can be secured through the provision of appropriate conditions in any marine licence issued.
- 7.7.8 It is noted by NRW PS that the applicant has committed to further discussions, details and agreements around real-time trigger points, monitoring methods and mitigation post-consent once details of the types of devices to be deployed are available. Such requirements will lead to the development of a detailed EMMP, following approval by NRW PS which will provide additional information to that in the outline EMMP (v.10). To aid the development of the detailed EMMP the applicant will be required to engage with relevant stakeholders including NRW TE and JNCC post-consent.
- 7.7.9 NRW TE note that concerns remain that the noise modelling carried out to date, does not adequately represent the complexity of the Project Design Envelope.

However, NRW TE also confirmed that while certain points raised in relation to the potential effects of underwater noise have not been addressed they are satisfied that through the commitments of the outline EMMP (v.10) that significant impacts from underwater noise (operational turbine noise and ADDs) can be minimised and potentially avoided. Commitments within the outline EMMP (v.10) include the requirement to carry out additional underwater noise modelling prior to the deployment of any device or use of ADDs, as well as underwater noise monitoring of the operational turbines and activated ADDs to ensure noise levels remain within the predicted range.

- 7.7.10 Although the outline EMMP is not a finalised document, commitment from the applicant to provide a detailed EMMP post-consent based on the outline EMMP (v.10) will be secured through the appropriate condition to the marine licence. The mechanisms and commitments provided within the outline EMMP (v.10) are sufficient for NRW PS to conclude that no AEOSI would occur on marine mammals from collision or underwater noise related impacts. However, it is noted that significant technical monitoring challenges remain that would need to be addressed in order to deliver the commitments laid out in the outline EMMP (v.10), such as the ability of the monitoring devices to automatically trigger deterrents, if required.
- 7.7.11 The applicant predicts that as more evidence is gathered through monitoring of the initial deployment (Phase 1), the assessment will be found to be precautionary, therefore, allowing consideration of scaling-up without leading to a significant impact on marine mammals. NRW TE have highlighted that as interaction of marine mammals with tidal devices is largely unknown, it is not possible to conclude at this stage that the assessment carried out is precautionary or whether scaling-up will be possible. NRW PS has had regard to the views of the applicant and considers that the applicant will need to demonstrate, using the monitoring results, that each subsequent phase of deployment could proceed without AEOSI. Should monitoring data indicate that adverse impact on marine mammals or bird populations could not be ruled out, then additional mitigation will be applied in line with the agreed detailed EMMP (Section 7.1). Such mitigation will include the backstop commitment of ceasing tidal device operation (see paragraph 49 of outline EMMP (v.10)) to prevent AEOSI. NRW PS consider that these mechanisms can be secured through the provision of appropriate conditions in any marine licence.
- 7.7.12 In light of the above, NRW PS are satisfied that the potential impacts on marine mammal receptors have been sufficiently addressed by the applicant within the ES and supplementary documentation. NRW PS consider that mitigation provided through the phased approach and production and adherence to a detailed EMMP can be secured through the provision of an appropriate condition in any marine licence issued.

## **7.8 Offshore Archaeology and Cultural Heritage**

- 7.8.1 Cadw and Welsh Archaeological Trust (WAT) were generally satisfied with the assessments and conclusions of this topic. However, the need to consider visual impact upon the settings of archaeological sites and listed buildings on land caused by the offshore development was highlighted as a key area to address.

- 7.8.2 To address the specific need to consider visual impact on settings, the applicant provided a supplementary note (MOR-RHDHV-DOC-0125) which, among other things pertaining to onshore archaeology, assesses the visual impact on settings from the offshore development.
- 7.8.3 NRW PS note that Cadw and WAT concur with the conclusions of the applicant's additional assessment but require certain conditions to secure appropriate safeguards for the marine and maritime archaeological resource including:
- The requirement for an Archaeological Mitigation Strategy and a Protocol for Archaeological Discoveries to be submitted to and approved in writing by NRW before any marine works can commence.
  - The identification of any Archaeological Exclusion Zones (AEZs) where no development related activities can occur.
  - The requirement of a Written Scheme of Investigation for a staged programme of archaeological work.
- 7.8.4 NRW PS note that conditions attached to a marine licence must allow for mitigation by design or avoidance to be imposed, if future investigations identify sites of such sensitivity to be threatened by proposals. NRW PS consider that these can be secured through the provision of appropriate conditions within any marine licence issued.
- 7.8.5 Given all the above, NRW PS are content that the potential impacts on Offshore Archaeology and Cultural Heritage receptors have been sufficiently addressed by the applicant within the ES and supplementary documentation.

## 7.9 Commercial Fisheries

- 7.9.1 During public representations received in December 2019, January and September 2020, concerns were raised about the potential impacts on fishing activities and fish stocks.
- 7.9.2 Impact on commercial fisheries were considered within chapter 14 of the ES, and no significant impact was identified. Representation from Welsh Government fisheries did not raise any key issues with the applicant's ES, Marine Licence application or other supporting documentation in relation to commercial fisheries. In addition, no comment was received from the Welsh Fishermen's Association (WFA).
- 7.9.3 NRW PS agree with the conclusions of the WFD Compliance Assessment (MOR-RHDHV-APP-00126a), i.e. that the risk of deterioration of the Beddmanarch Bay Shellfish Water Protected Area from the proposal activities can be ruled out.
- 7.9.4 In light of the above, NRW PS are satisfied that the potential impacts on commercial fisheries have been sufficiently addressed by the applicant within the ES and supplementary documentation.



## 7.10 Shipping and Navigation

7.10.1 A number of representations were made in relation to this topic by Maritime and Coastguard Agency (MCA), Trinity House (TH), UK Chamber of Shipping, Isle of Anglesey County Council (IACC) and the Royal Yachting Association (RYA). Concerns were also raised during public representations received in December 2019, January and September 2020, March and April 2021 about the potential impacts on shipping and navigation including marine recreational activities. The key concerns raised included:

- The requirement for a completed MGN 543<sup>2</sup> checklist.
- The need for separate Navigation Risk Assessments (NRA) to be produced for each development site within the Marine Development Zone (MDZ).
- Lack of consideration of impacts and navigational risks upon recreational vessels (including kayaks).
- The space available to allow safe passage of vessels between the shore and MDZ.
- The under-keel clearance (UKC) of the arrays.
- The suggestion that the NRA (and its addendum) and the Interactive Boundaries Assessment do not comply with MGN 543.
- No finalising of design options making it impossible to assess the full impact of the project on recreational boating activity.
- The apparent exclusive reliance of the NRA (and its addendum) and Interactive Boundaries Assessment (IBA) on AIS and radar data to provide information about boating activity in the vicinity, which risked overlooking recreational vessels which do not carry AIS and offer a small radar silhouette.
- The validity and accuracy of the data used by the applicant for carrying out the risk assessment.
- The need for clarification on potential embedded mitigation measures to allow assessment of which safety measures will be applied.
- The list of mitigation measures in the ES differs from that in the NRA.
- Potential effects of changes to hydrodynamics on navigation.
- Lighting and marking of marine infrastructure.
- Unclear how access to Holyhead as a safe haven has been addressed.
- Potential displacement of vessels around MDZ, increasing passage time.

7.10.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Confirmation by the applicant that device specific NRAs will be carried out for each deployment.
- Full list of embedded and additional mitigation measures provided in ES chapter 15 ((MOR-MSP-DOC-002).
- Provision of a designated zone where turbine devices with UKC of 20m or greater will be deployed.

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<sup>2</sup> Industry guidance on assessing navigational safety and emergency response, caused by offshore renewable energy installations. In April 2021 the MCA published new guidance (MGN 654) which replaces MGN 543. At the time of the ORML 1938 marine licence application MGN 543 was the relevant guidance to developers.



- Provision of a designated zone where turbine devices with UKC of 8m or greater will be deployed.
- Provision of a completed MGN 543 checklist in Annex G of the NRA addendum ((MOR-MCO-DOC-001).
- Provision of an IBA (20UK1619\_RN\_MM\_VTS02-02) showing that 90% of the marine traffic occurred to the east to the development zone.
- Confirmation from the applicant that navigation is not set to be excluded from the area (MOR-RHDHV-DOC-0124) and that the consideration around navigation routing measures through the MDZ would be dependent on final layout.
- Provision of a Risk Matrix, included in amended ES navigation chapter (MOR-MSP-DOC-002), which cross references the Hazards from the NRA with the Impacts assessed in the ES chapter.
- Confirmation by applicant that visual surveys were also completed, and these used to inform the survey data, along with AIS and Radar, for the NRA and IBA.
- The applicant straightened and widened the eastern inshore channel to a minimum width of 1km and an average width of 1.9km, to allow more room and easier navigation by users of the inshore route.
- Lighting and marking of devices to ensure safety of navigation while being cognisant of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) recommendations. However, it is noted that the markings will need to be determined once a device specific layout is agreed.
- Impacts to powered and un-powered recreational vessels assessed across all identified hazard types (NRA addendum (MOR-MCO-DOC-001) and amended ES navigation chapter (MOR-MSP-DOC-002) including the utilisation of GIS shapefiles to supplement recreational user data.
- Changes to metocean conditions and hydrodynamics identified (MOR-HRW-DOC-0001) and assessed as a causal factor for powered and un-powered recreational vessels (including kayaks) in NRA addendum (MOR-MCO-DOC-001) and the amended ES navigation chapter (MOR-MSP-DOC-002).
- Provision of the HR Wallingford Report 'Further information on predicted changes in waves and currents' (MOR-HRW-DOC-0002) specifically to assist discussions with kayakers.
- Access to safe havens taken account during risk scoring process in the NRA addendum.
- Displacement of vessels around MDZ considered in NRA addendum.

7.10.3 NRW PS has noted the confirmation from the MCA that the applicant has carried out the assessment in line with MGN 543 and that all vessel traffic data acquired for the project and presented in the NRA addendum and ES is fully compliant with their requirements and those of MGN 543. It is the opinion of the MCA that the NRA addendum meets the NRA methodology guidance and that all the data that feeds into the NRA is reasonable, noting that the applicant has committed to an update of the whole site NRA every 2 years.

7.10.4 NRW PS consider that sufficient justification has been provided by the applicant on the assessment approach. Detail on the final devices to be deployed has yet to be confirmed and therefore a Rochdale envelope approach (see Section 7.1) has been

taken by the applicant. Accordingly, a worst-case scenario was adopted for the NRA and ES. NRW PS are satisfied that the worst-case scenario has been considered by the applicant.

- 7.10.5 In addition to the whole-site NRA, the applicant has committed to provide an array specific NRA for each deployment phase which considers the detailed parameters of a specific array, its proposed location and the presence of other installed arrays. Each specific NRA must be consistent with the Device Deployment Protocol (DDP). Each deployment specific NRA will be carried out by the developer in accordance with the most recent guidance (MGN 654). Agreement will be required from NRW PS (in consultation with relevant stakeholders including MCA and TH) that the project's navigational risk from the deployment phase is deemed to be As Low As Reasonably Practicable (ALARP). NRW PS consider that this commitment is required and can be secured through the provision of appropriate conditions in any marine licence issued.
- 7.10.6 The risks to commercial and recreational vessels (including non-motorised such as kayaks) have been considered within the NRA, NRA addendum and ES navigation chapter and the risks assessed as ALARP or lower. Impact on commercial and recreational vessels will need to be considered as part of the array specific NRA detailed in 7.10.5.
- 7.10.7 Following initial concerns from consultees, the applicant widened the eastern inshore channel to an average width of 1.9 km with a minimum of 1 km, which increases sea room for passage of vessels, including non-motorised such as sail boats and kayaks (see Figure 1 of the NRA addendum (MOR-MCO-DOC-001), Figure 4-1 and 4-5 of ES Volume II (MOR-RHDHV-DOC-0147)). NRW PS note that the MCA were satisfied that the interactive boundary assessment was sufficient, and the inshore passage created in accordance with the assessment. The MCA also confirmed that they do not have any concerns regarding availability of sea room for passage during the 1st phase of deployment.
- 7.10.8 NRW PS have noted the navigation safety conditions and advisories requested by the MCA and TH, these include but are not limited to notices to mariners and lighting requirements. These can be secured through the provision of appropriate conditions in any marine licence issued and are detailed further in Section 8.
- 7.10.9 The right of navigation through the area remains, and the MCA does not believe an Area To Be Avoided is appropriate. However, NRW PS note that the MCA would be willing to discuss the appropriateness of a Precautionary Area with the developer post-consent. Restricted Navigation Areas, No Fishing Zones and No Anchoring Areas are outside the jurisdiction of any marine licence determination, and any application for such area would need to be made to the appropriate authorities.
- 7.10.10 In light of the above, NRW PS are content that the potential impacts on Shipping and Navigation have been sufficiently addressed by the applicant within the ES and supplementary documentation. Subject to the appropriate mitigation being applied, including the requirement for deployment specific NRAs, NRW PS note that the MCA agree that the project navigation risks can be acceptable or tolerable (if

ALARP). NRW PS consider that the mitigation required can be secured through the provision of appropriate conditions in any marine licence issued.

### **7.11 Marine Infrastructure and Other Users**

- 7.11.1 No comments were provided by the technical consultees or public representations in relation to marine infrastructures and other users. Recreational navigation and commercial shipping are covered within the navigation topic (Section 7.10).
- 7.11.2 Given this, NRW PS have concluded that the potential impacts from the project have been adequately addressed in the ES.

### **7.12 Water Resources and Flood Risk**

- 7.12.1 During consultation, no concerns were raised through the marine licensing process in relation to water resources and how these had been assessed in the ES.
- 7.12.2 NRW TE confirmed they were satisfied with the assessment carried out in relation to flood risk (as detailed within chapter 17 of the ES and Appendix 17.1 Flood Consequence Assessment). The assessment concluding that the project is in line with national and local policy requirements regarding flood risk.
- 7.12.3 It was concluded by NRW TE that the Flood Consequence Assessment provided a true reflection of the flood risks and demonstrated that these risks can be managed. Furthermore, NRW TE confirmed that previous concerns regarding residual flood risk during construction were adequately addressed.
- 7.12.4 Having considered the amended WFD Compliance Assessment provided by the applicant (MOR-RHDHV-APP-00126a, see Appendix 8.1 of the ES), NRW PS have concluded that the concerns raised by NRW TE and public representations have been sufficiently addressed in relation to Marine Water and Sediment Quality (see section 7.3).
- 7.12.5 NRW PS acknowledge the range of relevant mitigation measures provided by the applicant including those contained within the outline Code of Construction Practice (CoCP) (MOR-RHDHV-DOC-0076).
- 7.12.6 NRW PS note that the Welsh Minister for Climate Change is 'minded-to' make the TWA Order and grant deemed planning permission subject to the planning conditions (as specified) and amendments (reference qA1346892). This includes the requirement for a CoCP which, prior to commencement, shall be submitted to and approved in writing by the Local Planning Authority.
- 7.12.7 NRW PS are satisfied that the concerns raised in relation to Water Resources and Flood Risk have been adequately addressed within the ES and supplementary information.

### 7.13 Ground Conditions and Contamination

- 7.13.1 No concerns were raised in relation to Ground Conditions and Contamination and how this topic had been assessed in the ES.
- 7.13.2 NRW PS acknowledge the range of relevant mitigation measures provided in support of the ML application including those contained within the outline CoCP (MOR-RHDHV-DOC-0076), the outline Pollution Prevention and Management Plan (PPMP) (MOR-RHDHV-DOC-0077) and the outline CEMP (MOR-RHDHV-DOC-0073). NRW PS consider that finalising the details of the PPMP, specifically in relation to the Marine Pollution Contingency Plan, and CEMP can be secured through appropriate conditions to a marine licence.
- 7.13.3 NRW PS note that the Welsh Minister for Climate Change is 'minded-to' make the TWA Order and grant deemed planning permission subject to the planning conditions (as specified) and amendments (reference qA1346892). This includes the requirement for a CoCP which, prior to commencement, shall be submitted to and approved in writing by the Local Planning Authority.

### 7.14 Onshore Ecology

- 7.14.1 NRW TE raised a number of issues in relation to this topic. Issues were also raised by IACC, North Wales Wildlife Trust, RSPB and during public representations received in December 2019, January, August and September 2020, March and April 2021. The main issues included:
- Need for additional clarification on the activities and methodologies employed which overlap or are adjacent to the Holy Island Coast SAC/SPA/SSSI, to provide confidence in the assessments. In particular, the cable landfall methodologies.
  - NRW TE disagreed that there would be no impact on the integrity of the Holy Island Coast SAC/SPA/SSSI.
  - Disagreement on the interpretation of temporary effects.
  - The need to consider potential 'permanent' habitat loss to the Holy Island Coast SAC and derogation under article 6(4) of the Habitats Directive.
  - Requirement for additional evidence to support the conclusions in relation to Chough, in particular the potential loss of foraging habitat.
  - The request that a workable definition of functional linkage is presented between the onshore development area and the Holy Island Coast SPA.
  - Request that appropriate enhancement measures are secured in the Ecological Action Plan (EAP).
  - The need for a detailed botanical survey covering the area proposed for cabling.
  - Clarification on efforts to avoid areas of vascular plant interest during micro-siting of J-tube anchor points.
- 7.14.2 As noted in Section 3.2.4, the appropriate assessment carried out by NRW PS assesses the elements of the proposal seaward of MHWS. The terrestrial works, landward of MHWS, of the project fall outside of the marine licensable area and are

considered under the TWA determination assessed by the Welsh Minister for Climate Change.

7.14.3 To address the issues raised in relation to Onshore Ecology, the applicant submitted further information and justifications. Key to addressing these issues were:

- Updates and additional detail on the methodology, assessments and mitigation, and in relation to trenching, updated refinements to the design. These were submitted in the Terrestrial Ecology Assessment Update document (MOR-RHDHV-DOC-0110 v.4) and Cliff Habitat Design Refinement Note (MOR-RHDHV-DOC-0135).
- Commitment to carry out Biodiversity Net Gain (MOR-RHDHV-DOC-0110 v.4).
- Additional information to substantiate the assessment conclusions of the ES and HRA within the document Onshore Ornithology Response to Comments on Chough (MOR-RHDHV-DOC-0120).
- Revision to mitigation for Chough, i.e. works exclusion areas during the breeding season (from 20 March to 31 July inclusive) to include the period when adults are courting and nest prospecting (see MOR-RHDHV-DOC-0120).
- Outlining the concept of functional linkage and providing further clarity on potential loss of Chough foraging habitat from nests where foraging ranges may overlap with the onshore development area (MOR-RHDHV-DOC-0120).
- Carrying out an NVC survey (Botanical Survey of Cliff Vegetation, MOR-BSG-DOC-0001) on vegetated sea cliffs to inform the baseline (including presence of rare or notable species) and the micro-siting of the cable route.
- Commitment to carry out a range of pre-construction surveys for protected and invasive species (see MOR-RHDHV-DOC-0110 v.4) including checks for barn owls in mature trees.
- The provision of an Ecological Clerk of Works (ECoW) during construction (see MOR-RHDHV-DOC-0110 v.4) to advise on the micro-siting of the J-Tube anchor points to avoid areas of vascular plant interest as identified within the Cliff Botanical Survey (Document MOR-BSG-DOC-0001).

7.14.4 In response to the further environmental information provided and the assessment conclusions, NRW PS note that NRW TE are satisfied that the applicant has sufficiently addressed concerns in relation to Chough.

7.14.5 It is noted that NRW TE are satisfied that the potential impacts on the intertidal features of the Glannau Ynys Gybi/ Holy Island Coast SPA/SAC/SSSI will be non-significant and that the concerns raised in relation to the ES have been addressed. However, NRW TE advises that the potential loss of some of the protected Annex I vegetated sea cliff habitat should be considered both “significant” in EIA terms and that an adverse effect on the integrity of the Holy Island Coast SAC cannot be ruled out.

7.14.6 NRW PS acknowledge the commitment by the applicant to compensation measures through the outline Habitat Enhancement Plan (MOR-RHDHV-DOC-0169) to compensate for any losses to the vegetated sea cliff habitat.



- 7.14.7 NRW PS note the Planning Inspector's report dated 24 June 2021 (reference 3234121) and the conclusion by the inspector that the outline Habitat Enhancement Plan is considered as necessary compensation for the purposes of regulation 68. Furthermore, that habitat compensation would be secured through the imposition of planning conditions 7 and 11, as listed in the Planning Inspector's report and also within the Welsh Minister's letter dated 22 October 2021 (reference qA1346892). NRW PS also note that the Welsh Minister for Climate Change is 'minded-to' make the TWA Order (22 October 2021) and grant deemed planning permission subject to the planning conditions (as specified) and amendments (reference qA1346892).
- 7.14.8 NRW PS are satisfied that the impacts and concerns raised in relation to Onshore Ecology have been adequately addressed within the ES and supplementary information. Following the letter from the Welsh Minister for Climate Change to the applicant (22 October 2021) (reference qA1346892) NRW PS are satisfied that the onshore impacts on ecology have been fully considered by the Welsh Minister in determining the TWA Order and application for deemed Planning Permission.

## 7.15 Onshore Archaeology and Cultural Heritage

- 7.15.1 Cadw concurred with the conclusions of the applicant in relation to Onshore Archaeology and Cultural Heritage that none of the adverse impacts would be significant.
- 7.15.2 Welsh Archaeological Trust (WAT) raised several issues in relation to this topic. The main issues included:
- Visual impact upon the settings of archaeological sites and listed buildings on land caused by the offshore development not being fully considered in Offshore nor Onshore Archaeology and Cultural Heritage chapters, nor in the Seascape, Landscape and Visual Impact Assessment (SLVIA) chapter.
  - Assessment of setting impacts should be in accordance with Cadw guidance.
  - Scope of the desk-based assessment not agreed with WAT.
  - Significance of the archaeology at Parc Cybi has been under-valued.
  - Terrestrial geophysical and trial trenching required.
- 7.15.3 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:
- A supplementary note which provided additional clarity on the assessment of the impact of the offshore infrastructure upon heritage assets (MOR-RHDHV-DOC-0125).
  - A supplementary note has been prepared to provide additional clarity on the assessment of the impact of the offshore infrastructure upon heritage assets following Cadw guidance (MOR-RHDHV-DOC-0125).
  - Onshore Archaeology Supplementary note (MOR-RHDHV-DOC-0122) to provide additional clarity and updated assessment including in regard to Parc Cybi.
  - A revised Wessex Archaeology report produced in consultation with GAPS (MOR-WES-DOC-0001).



- Terrestrial geophysics survey and trial trenching carried out.

- 7.15.4 NRW PS note that the requirement to carry out on-site archaeological works and resulting post-excavation works will be set out within a Written Scheme of Investigation (WSI) post-consent, subject to approval by the relevant stakeholders (Cadw and WAT). The applicant has committed to developing an onshore and offshore Archaeological WSI to deliver mitigation measures in relation to archaeology prior to commencement of the offshore and onshore construction works.
- 7.15.5 The requirement for an offshore WSI can be secured through a condition of a marine licence. The onshore works fall outside the jurisdiction of the marine licence, however, NRW PS note that the letter from the Welsh Minister for Climate Change on 22 October 2021 (reference qA1346892) to the applicant provides a condition requiring that the development is carried out in accordance with the approved WSI (condition 13 of TWA Order). It being required that the WSI is submitted to and approved in writing by the LPA, prior to commencement of development.
- 7.15.6 NRW PS are satisfied that the impacts and concerns in relation to Onshore Archaeology and Cultural Heritage have been adequately addressed within the ES and supplementary information. NRW PS acknowledge the conclusions of the Planning Inspectorate's report on the 24 June 2021 (reference 3234121), namely that the evidence demonstrates that the works proposed was not likely to result in significant adverse impacts on heritage assets.
- 7.15.7 NRW PS acknowledge that the Welsh Minister for Climate Change is satisfied with the Inspector's conclusions and is 'minded-to' make the TWA Order and grant deemed planning permission subject to the planning conditions (as specified) and amendments (22 October 2021) (reference qA1346892).

## 7.16 Noise and Vibration

- 7.16.1 No representations were received in relation to airborne noise and vibration. Representations were made in relation to underwater noise and these are considered in Section 7.5 (Fish and Shellfish Ecology) and 7.7 (Marine Mammals). Therefore, NRW PS have concluded that the potential impacts due to the project have been adequately addressed within the ES and supporting documentation.

## 7.17 Air Quality

- 7.17.1 Under the marine licensing process several concerns were raised by NRW TE and IACC. The main issues included:
- The requirement for an Air Quality Management Plan (AQMP).
  - Information on likely vessel movements or associated emissions not included within the Traffic Clarification Note.
  - Further evidence required to confirm why in-combination air quality assessment not considered.

7.17.2 No public representations were made on this topic in relation to the Marine Licence application.

7.17.3 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Submission of the Air Quality Response document (MOR-RHDHV-DOC-0148) which confirms that offshore emissions from vessel activity were scoped out of the EIA based on the limited potential for significant air quality effects, and that the predicted traffic flows will be significantly below the screening criteria and, therefore, would not be anticipated to give rise to significant effects.
- Confirmation that there are no other major projects that are anticipated to increase traffic flows which would result in the screening criteria being exceeded.
- The commitment to include an AQMP (within the CoCP).

7.17.4 The air quality management plan relates to onshore works and, therefore, falls outside the jurisdiction of the Marine Licence. NRW PS note that the Welsh Minister is satisfied that any impact on air quality from the works can be controlled by planning condition (22 October 2021) (reference qA1346892). For each phase of the works the CoCP would, where relevant, include controls that enable air quality to be maintained.

7.17.5 In light of the above, NRW PS are content that the potential impacts and concerns on Air Quality, have been sufficiently addressed by the applicant within the ES and supplementary documentation.

## **7.18 Traffic and Transport**

7.18.1 No representations were received in relation to traffic and transport. Representations were made in relation to marine traffic which are discussed within section 7.10 (Shipping and Navigation). NRW PS consider that the potential impacts from the project have been adequately addressed within the ES and supporting documentation.

## **7.19 Seascape, Landscape and Visual Impact Assessment**

7.19.1 NRW TE and IACC raised a number of issues in relation to this topic and during public representations received in December 2019, January and September 2020, March and April 2021, concerns were also raised about the potential impacts on seascape. The main issues included:

- The level of effects on the Isle of Anglesey Area of Outstanding Natural Beauty (AONB) resulting from offshore components of the project, with a specific requirement to consider additional mitigation that could be incorporated.
- Clarification required on the definition of what comprises a visually prominent tidal device and where these would be deployed.

- Confirmation of the preferred installation method for the export cables at the proposed landfall including further consideration of the option that comprises trenching cables across the beach at Abraham's Bosom and above ground cables attached to the cliff, together with details of additional mitigation that could be incorporated.
- Concern that the predicted effects on the Isle of Anglesey AONB are underplayed.
- The need for a Landscape Management Plan.
- The requirement for an annotated photomontage covering the offshore components of the project.
- Further explanation required of the construction phase for the offshore works and how this relates to the Seascape, Landscape and Virtual Impact Assessment (SLVIA).
- Greater understanding as to how the seascape view from the perspective of small recreational vessels had been considered.
- The need to consider the cumulative effects of deployments on seascape and landscape within the DDP.
- Commitment to monitoring the effects of development within the seascape on the AONB.
- The need for further detail on lighting requirements for construction/support vessels.

7.19.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Commitment to a landscape enhancement package for the AONB. A Section 106 Agreement for securing this package has been agreed with IACC and submitted as part of the TWAO determination process.
- Provision of SLVIA Post Application Consultation Responses document (MOR-SLR-DOC-0001).
- Provision of an outline Landscape Management Plan (MOR-SLR-DOC-0002).
- Submission of amended photomontages showing commitment to adopt a revised colour scheme (yellow/grey tidal devices).
- Provision of further detail on the cable installation methodology at landfall and along the cliff face (MOR-SLR-DOC-0001).
- Clarification on the offshore construction activities in relation to SLVIA provided in the SLVIA Post Application Consultation Responses document (MOR-SLR-DOC-0001).
- Clarification as to how visual effects on offshore recreational users were addressed.
- Further detail given on the construction and support vessel numbers and their presence on site (MOR-SLR-DOC-0001).
- Confirming that the outline Landscape Management Plan (MOR-SLR-DOC-0002) and the DDP will encompass seascape effects.
- Commitment from the applicant to carry out a specific seascape, landscape and visual impact assessment for each deployment of tidal energy devices as part of the DDP. Such a requirement ensuring continual review and

monitoring of the development effects and continual consideration of cumulative effects

- The provision of information to clarify which types of surface-emergent tidal device would fall within the category, “no visually prominent emergent devices”.

- 7.19.3 NRW PS note that the Welsh Minister for Climate Change is ‘minded-to’ make the TWA Order and grant deemed planning permission subject to the planning conditions (as specified) and amendments (22 October 2021) (reference qA1346892). These amendments include the triangular extension to the “Restricted Area – Northern” to mitigate seascape, landscape and visual effects on South Stack and the Isle of Anglesey AONB. Although this matter was not raised by NRW TE through the marine licence determination process the applicant has requested that this triangular extension is placed within the Marine Licence to align the consenting commitments with the TWA Order. During the TWA Order consultation process, NRW advised that this triangular extension (“The Triangle”) would ensure visually prominent surface-emergent devices are located further away from the views experienced from South Stack and its vicinity.
- 7.19.4 NRW PS are satisfied with the rationale for inclusion of The Triangle set out by Welsh Ministers within the ‘minded to’ letter (reference qA1346892) and the Planning Inspector’s Report (reference 3234121) section (IR 843-847), and note the applicants acceptance of this amendment. NRW PS have accepted an amendment to Figure 4-5 in Volume II Chapter 4 of the ES, which shows restricted areas limiting the type of devices for deployment in the MDZ. This amendment (see Annex 3) indicates the triangular extension to the “Restricted Area – Northern”.
- 7.19.5 Significant effects on the seascape, landscape and visual receptors remain despite the mitigation measures committed to by the applicant. NRW PS note that the applicant has proposed a compensation package under a Section 106 agreement to offset the potential impacts on these receptors. During the TWA Order examination, IACC agreed that the compensation proposals were acceptable and could be secured via a Section 106 as a condition to the deemed Planning Permission. Within the ‘minded-to’ letter from the Welsh Minister for Climate Change dated 22 October 2021 (reference qA1346892), NRW PS acknowledge that condition 22 of the TWA Order would secure measures for landscape enhancement.
- 7.19.6 NRW TE raised a number of comments around the outline Landscape Management Plan which would need to be addressed in the finalised Landscape Management Plan pre-construction. NRW PS acknowledge that commitments made through the Landscape Management Plan which are relevant to the offshore works will be captured within the DDP.
- 7.19.7 The applicant has committed to providing a DDP which will set out the proposed details for the device(s) to be deployed at each deployment phase. The DDP will include an updated visual assessment if the proposed deployment includes surface emergent devices, or other visible infrastructure, with consideration also given to cumulative visual effects where pre-existing deployments have occurred. The DDP must be submitted to and approved in writing by NRW PS and will be secured by a condition attached to any consent given under the Marine Licence.

- 7.19.8 In light of the above, NRW PS consider that the applicant, in line with Policy SOC\_07 of the WNMP, has taken into account the potential impact on seascape, landscape and visual receptors within the ES and relevant supporting documentation. The applicant has sought to avoid and minimise impacts where possible and proposed mitigation such as the use of restricted development zones for specified turbine devices and through the DDP. NRW PS note that the applicant has committed to provide compensation through the deemed Planning Permission (Section 106) to offset these impacts.
- 7.19.9 NRW PS note that the potential for a significant impact on visual receptors remains after mitigation. However, within Section 1.2.5 of the ES, the applicant sets out the need for the project including its benefit to the local economy and the renewable sector. In addition, the IACC have agreed a potential compensation package with the applicant. NRW PS consider that although impacts remain, there has been a clear and convincing case set forward for proceeding with the development by the applicant.

## 7.20 Socio-Economics, Tourism and Recreation

- 7.20.1 Concerns were raised on this topic by NRW PS, IACC, RYA and during public representations (December 2019, January, August and September 2020, March and April 2021). The main issues included:
- The need to recognise the importance of recreation and water sports to Anglesey's residents and visitors.
  - Implications of losing and/or significantly restricting boating.
  - Omission of GIS tracks/routes for small recreational craft leading to under-representation of recreational use (including kayaking) around the development area.
  - Need for greater consideration to potential impacts on recreational boating including kayaking.
  - Requirement for detailed engagement with local recreational groups.
  - Clarification why the Supplementary Tourism and Recreation Assessment did not encompass interviews with RYA affiliated clubs.
  - Why recommendations around the Seabed User and Developer Group (SUDG) were not demonstrated.
  - Concerns around the approach and methodology of the tourism assessment.
- 7.20.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:
- Highlighting that impacts to powered and un-powered recreational vessels were assessed across all identified hazard types (NRA addendum (MOR-MCO-DOC-001) and amended ES navigation chapter (MOR-MSP-DOC-002) using GIS shapefiles to supplement recreational vessel data.
  - Confirmation through the outputs of the NRA addendum (MOR-MCO-DOC-001) that the proposal would not restrict access to the majority of recreational users.



- Provision of a Supplementary Tourism and Recreation Assessment (MOR-BAU-DOC-0001).
- Interviews with local businesses involved with the tourism sector (including offshore recreation).
- Providing a Supplementary Socio-economics Assessment (MOR-BAU-DOC-0002).
- Submitting an Outline Skills and Training Action Plan (MOR-MM-DOC-0008).
- Provision of an Outline Tourism and Recreation Monitoring Strategy (MOR-MM-DOC-0009) which identifies monitoring measures and a timetable for mitigation, as appropriate.
- Confirming that quarterly meetings will be held with IACC to verify work and actions pending.
- Clarification and signposting (MOR-MM-DOC-0011) to where potential impacts upon the kayaking community and other offshore recreational users were considered within the submitted documents.
- Provision of the document *Socio-economic Response to NRW Marine Licensing's Request for FEI* (MOR-MM-DOC-0024) clarifying that focus of supplementary assessment (MOR-BAU-DOC-0002) was land based tourism and recreation.
- The proposal (see MOR-MM-DOC-0024) from the applicant to conduct additional monitoring of marine-related activities (including boating activities), in addition to the analysis of tourism and recreation activities.
- Provision of a Supplementary Kayaking and Sailing Activities Assessment (MOR-BAU-DOC-0003) which outlines baseline, presents actions to mitigate any negative effects Morlais could have on activities, and gives an approach to monitor kayaking and sailing activities around Holy Island.
- Proposal to carry out interviews (annually for 5 years and then biennially for project duration) to inform baseline and monitor any impact (MOR-BAU-DOC-0003).
- Suggestion by applicant (MOR-MM-DOC-0024) that RYA affiliated clubs can be included in the additional monitoring process of marine-related activities.
- Commitment by applicant to carry out and complete additional monitoring of marine related activities in 2021.
- Clarification why the SUDG methodology was not applied to Holy Island and surrounding area (see documents MOR-RHDHV-DOC-0170 and MOR-MM-DOC-0024).

7.20.3 NRW PS acknowledge the proposals from the applicant to deliver and monitor the spend profile of the project in the region; the proposals to monitor and mitigate impacts upon tourism and the proposals to improve the skills within the local workforce. It is noted that the applicant has proposed that these commitments could be secured through appropriate pre-commencement conditions attached to the deemed planning permission. Among the commitments is for a final version of the Tourism and Recreation Monitoring Strategy to be submitted to IACC at least six months prior to the construction of the development.

7.20.4 In light of the above, NRW PS are satisfied that the potential impacts and concerns on Socio-economics, Tourism and Recreation have been sufficiently addressed by the applicant within the ES and supplementary documentation. NRW PS note that



within the 'minded-to' letter dated 22 October 2021, the Welsh Minister for Climate Change is content with the conclusions from the Planning Inspector in relation to socio-economics, tourism and recreation.

## **7.21 Cumulative, Transboundary and In-Combination Impact Assessment**

7.21.1 Concerns were raised on this topic by NRW TE, ABPmer (in relation to underwater noise), IACC and public representations (January 2020). The main issues included:

- Inconsistencies and gaps identified in relation to the cumulative and in-combination effects.
- List of plans/projects considered within the assessments is not comprehensive. Several projects considered relevant to the cumulative assessment were missing, therefore making determination of the full scale of potential cumulative/in-combination effects not possible. Justification for plans/projects included and associated receptors/pathways should be clearly stated.
- How impact pathways have been considered for each receptor and factored into the assessment.
- Further clarity on the proposed phasing approach would be beneficial in understanding the potential for cumulative effects.
- The need to revisit cumulative impact assessment once any inadequacies and/or deficiencies in the assessment and information provided for an individual receptor topic had been addressed by the applicant.
- Additional consideration within the CIA to potential inter-relationships with the Holyhead Port proposal from changes in hydrodynamics, waves and sediment pathways.
- The need to consider the cumulative effects of deployments on seascape and landscape within the DDP.
- The need to consider the cumulative effects of deployments on navigation.

7.21.2 To address the issues raised, the applicant submitted further information and justifications. Key to addressing these issues were:

- Provision of a signposting document (MOR-RHDHV-DOC-0134) to indicate how and where issues had been addressed.
- Supplementary information contained within matrices to show worst case scenarios assessed and projects screened in/out (MOR-RHDHV-DOC-0125 v.4; MOR-RHDHV-DOC-0127).
- Provision of an addendum to CIA Chapter document following consultation (MOR-RHDHV-DOC-0133a), which considers each of the relevant topic chapters in the ES taking into account any additional work and/or information and whether the results change the conclusions drawn within the CIA.
- Clarification of the zone of influence for effects on marine physical processes.
- Clarification of why certain projects were screened in to HRA but not EIA.
- Provision of an appendix to document addendum to CIA Chapter (MOR-RHDHV-DOC-0133a) which focussed on potential for cumulative impacts with Holyhead Port, specifically from disposal of sediment at Holyhead North

disposal site and concluded a negligible cumulative impact for sediment transport pathways.

- Consideration of cumulative underwater noise effects assessment in relation to disturbance of marine mammals (MOR-RHDHV-DOC-0117).
- Confirmation of the continual requirement to carry out a specific seascape, landscape and visual impact assessment for each deployment of tidal energy devices as part of the DDP, ensuring a continual review and monitoring of the development effects and continual consideration of cumulative effects.
- The commitment to provide a specific NRA for each deployment (see Section 7.10), which will consider cumulative risks on navigation from pre-existing deployments as appropriate.

7.21.3 NRW PS note that the updated information provided for each topic did not alter the overall conclusions of the CIA. Given all the above, NRW PS are content that the potential impacts and concerns around this topic have been sufficiently addressed by the applicant within the ES and supplementary documentation.

## 8. Mitigation or monitoring measures to be taken

### 8.1 Features or measures to avoid, prevent, reduce or offset likely significant effects

- 8.1.1 In reaching the Conclusion about Environmental Impact under Regulation 21A of the Regulations), NRW must, *inter alia* consider any features of the project, in relation to the regulated activity being carried out, or measures which the applicant proposes to take which would have the effect of avoiding, preventing, reducing or offsetting any likely significant adverse environmental effects of the regulated activity (regulation 21A (1)(f)).
- 8.1.2 NRW considers that the following features of the project, or measures included within the project proposal, as described in the application form, ES and other supporting information, would have the effect of avoiding, preventing, reducing or offsetting any likely significant adverse environmental effects.
- 8.1.3 The export cable will be laid to bypass the large sand ridge to the north of South Stack. Therefore, no jetting of the large sand ridge will be required for cable burial.
- 8.1.4 Adherence to the project-specific Construction Environmental Management Plan (CEMP) and Pollution Prevention Management Plan (PPMP), that will include a Marine Pollution Contingency Plan (MPCP), will reduce the risk of adversely affecting water quality.
- 8.1.5 To reduce potential impacts on benthic organisms, pre-construction surveys will be carried out in the subtidal and intertidal environment, no more than 12 months prior to installation or deployment, to check for presence of sensitive marine features and, where feasible, allow micro-siting of tidal devices and cables.
- 8.1.6 Vessel activities within 300m of seabird colonies will be prohibited during the breeding season, unless otherwise advised by the Ecological Clerk of Works (ECOW), to ensure impacts on breeding birds are reduced. The restriction will cover

March to July for Abraham's Bosom; February to August for South Stack; and February to August for Gogarth.

- 8.1.7 Device deployments will occur in phases in accordance with the requirements of the detailed EMMP, once agreed by NRW PS. Monitoring data collected during operation will be used to inform subsequent phases and reduce uncertainty of potential operational impacts to seabirds and marine mammals.
- 8.1.8 An Environmental Monitoring and Mitigation Plan (EMMP) will detail mechanisms for mitigating impacts on seabirds and marine mammals and provides mitigation measures in a tiered hierarchy. The ultimate failsafe mitigation measure will be to cease device operation to avoid adverse effects from occurring. If the results of monitoring of the first phase of deployment, or subsequent phases, indicate that the next phase of deployment could begin without an adverse effect on marine birds or marine mammals, then the next phase of deployment could be authorised for deployment. Further detail on the EMMP approach is given in Section 7.1.
- 8.1.9 A Marine Mammal Mitigation Protocol (MMMP) will be required/secured by condition detailing the proposed mitigation measures to reduce the risk of any physical or permanent auditory injury (Permanent Threshold Shift, PTS) to marine mammals from underwater noise during the construction phase.
- 8.1.10 Offshore and onshore construction works will be carried out in line with an Archaeological WSI in agreement with the Welsh Archaeological Trust. Impact on heritage assets will be mitigated through micro-siting and adoption of archaeological exclusion zones around known or potential wreck sites. It is also proposed that a protocol for archaeological discoveries will be secured under condition.
- 8.1.11 To minimise loss of fishing ground availability, the construction activities will be planned, as far as reasonable, so that they are focussed in discrete areas at any one time.
- 8.1.12 A deployment (array) specific NRA will be carried out by the developer of each array in accordance with MGN 654 and to seek agreement from NRW PS (in consultation with MCA and TH) so that the project risk is deemed to be As Low As Reasonably Practicable (ALARP).
- 8.1.13 To avoid impact on navigation routes designated zones have been proposed within Figure 4-5 of the ES Volume II (see Figure 3 below). These zones provide areas where only turbine devices of Under Keel Clearance (UKC) of 20m or greater can be deployed, and where only submerged tidal devices with an 8m UKC can be deployed. Figure 4-5 has subsequently been amended (see Section 7.19); however, the restricted areas to avoid impact on navigation remain (see Annex 3).
- 8.1.14 To reduce impact on navigation a minimum of distance of 1km between floating or surface emergent arrays and the coastline will be applied (see Figure 3).

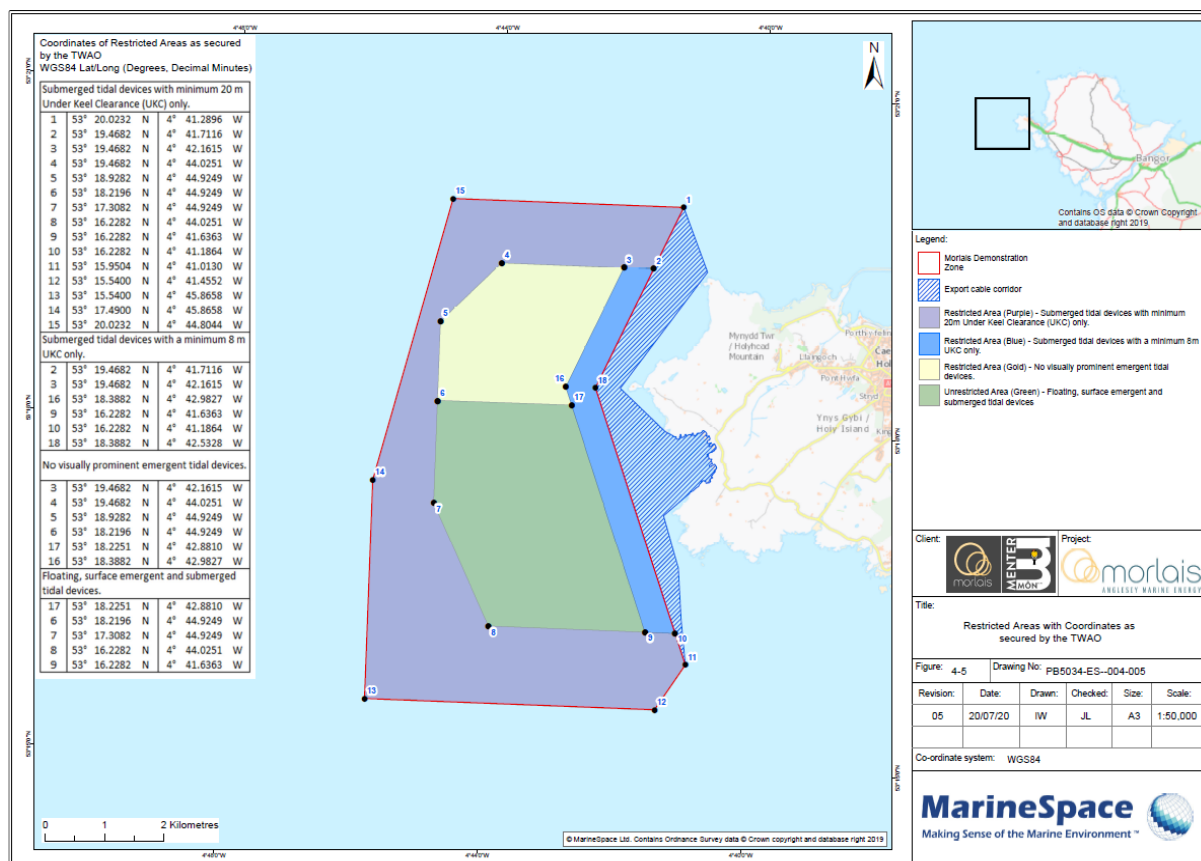


Figure 3: Location and boundary of the Morlais Demonstration Zone and Export Cable Corridor. Location of subzones are provided. Reproduced from Figure 4-5.

- 8.1.15 To reduce impact on navigation, appropriate alignment and spacing of devices will be required, with each array requiring layout approval from MCA and TH which must include micro-siting limits and ID marking.
- 8.1.16 A specific seascape, landscape and visual impact assessment will be carried out for each deployment of tidal energy devices as part of the DDP. Such a requirement ensures continual review and monitoring of the development effects with a continual consideration of cumulative effects to inform any additional mitigation and compensation requirements.
- 8.1.17 To reduce the impact on seascape, the developer proposes the use of restricted areas as defined in Figure 4-5 of the ES (Volume II) (see Figure 3), which shows the deployment restrictions for, “Floating / surface emergent and submerged tidal devices”. Figure 4-5 has subsequently been amended (see Section 7.19); however, restricted areas to reduce visual impacts remain (see Annex 3).
- 8.1.18 To ensure navigational safety post-installation inspection surveys of devices and along the length of cables will be carried out on a regular basis. In cases of damage, destruction or decay, notification will be provided by the developer to TH and MCA and such buoys and lights will be placed as directed.

## 8.2 Mitigation or monitoring required to be attached to the consent (Regulation 22 (c)-(e))

- 8.2.1 In reaching the EIA Consent Decision under Regulation 22, NRW must consider *inter alia* the appropriateness of any monitoring and mitigation measures and whether conditions need to be attached to the regulatory approval.
- 8.2.2 Section 7 outlines where NRW PS considers that there is a requirement for mitigation and/or monitoring and sets out the measures considered necessary to address potential impacts identified through the EIA process. These are summarised below:
- 8.2.3 Licence conditions will be required to ensure a pre-construction and post-construction monitoring programme is carried out post consent and in agreement with NRW TE to assist with the validation of the complex coastal process modelling outputs.
- 8.2.4 Given that the full details of the devices and deployment location are currently unknown, licence conditions will be required to ensure a DDP is submitted to NRW PS prior to construction of any tidal devices or operational hubs. The DDP will include details on the number, dimensions, depth and location of specific device types, as well as the construction methodology, measures to minimise effects and considerations such as cumulative effects on seascape during the construction phase.
- 8.2.5 Given that full details of the cable installation are currently unknown, there will be a requirement to submit a Cable Installation Plan, along with a Cable Operation and Maintenance Plan and a Cable Management Plan for approval prior to commencement of works to reduce the impact on habitats and protected species.
- 8.2.6 Licence conditions will be required to ensure that navigational safety is not compromised as a result of reducing water depth through cable protection activities (referenced to Chart Datum).
- 8.2.7 Licence conditions will be required to ensure that the developer produces an appropriate monitoring scheme to assess navigational safety.
- 8.2.8 To ensure navigational safety, licence conditions will require that an Aids to Navigation Plan (AtNP) is developed, submitted to and approved by the licensing authority prior to commencement of licensed activities.
- 8.2.9 Licence conditions will be required to ensure that the Marine Pollution Contingency Plan (as part of the PPMP) is submitted to and approved by the licensing authority prior to commencement of licensed activities. The conditions will ensure that pollution prevention best practice is adhered to, including that appropriate bunding and storage facilities are installed to contain and prevent the release of fuel, oils and chemicals associated with the plant, refuelling and construction equipment into the marine environment. This will reduce the potential for a significant impact on water quality.



- 8.2.10 Licence conditions will be required to ensure that the CEMP is submitted to and approved by the licensing authority prior to commencement of licensed activities. This document will detail management measures to reduce impacts during the construction phase such as adherence to pollution control legislation and guidance. The CEMP should also include commitment that vessel activities within 300m of seabird colonies will be prohibited during the breeding season, unless otherwise advised by the ECoW. The restriction will cover March to July for Abraham's Bosom; February to August for South Stack; and February to August for Gogarth.
- 8.2.11 Licence conditions will be required to ensure that an Emergency Response Cooperation Plan (ERCoP) following guidance set out by MCA in MGN 371 is produced and submitted for approval to the Licensing Authority prior to commencement of licensed activities.
- 8.2.13 To reduce impact on navigation and other uses of the sea, a licence condition will be required to ensure mariners and fishermen's organisations are made aware of the activity and that the HM Coastguard and United Kingdom Hydrographic Office (UKHO) are notified of licensed activities.
- 8.2.14 A licence condition will be required to ensure that the devices are regularly inspected and maintained. In case of damage or disrepair, relevant authorities including the MCA and TH will need to be notified and relevant steps taken to maintain safety of navigation such as aids to navigation and lighting.
- 8.2.15 To ensure safety of navigation, licence conditions will be required to ensure that all structures in the development are coloured as directed by TH.
- 8.2.16 Licence conditions will be required to ensure that a tidal device or array specific Navigational Risk Assessment (NRA) is submitted to the Licensing Authority for approval prior to each phase of deployment.
- 8.2.17 Licence conditions will be required to ensure that the site-wide NRA is updated every two years to acknowledge relevant emerging data and consider in-combination effects with the already deployed devices.
- 8.2.18 Licence conditions will be required to ensure that devices are located within pre-defined Restricted Areas suitable to the device characteristics (e.g. submerged tidal devices with minimum 20m UKC, see Figure 3).
- 8.2.19 To ensure navigation safety, licence conditions will be required to ensure that works are surveyed and charted as required by UKHO. On completion of these surveys the results and a corresponding report of survey must be supplied to the UKHO to allow for the updating of charts.
- 8.2.20 To reduce impact on the historic environment, licence conditions will be required to ensure that no licenced activities (including geotechnical investigations or other preliminary works affecting the seabed) take place until an Archaeological Mitigation Strategy has been submitted to and approved by the Licensing Authority, this should include:



- a Protocol for Archaeological Discoveries to be submitted to and approved in writing by NRW before any marine works can commence;
- the identification of any Archaeological Exclusion Zones (AEZs) where no development related activities can occur; and
- the provision and approval of a WSI for a staged programme of archaeological work.

- 8.2.21 Licence conditions will be required to ensure that the outline Marine Biodiversity Enhancement Strategy is submitted and approved by the Licensing Authority pre-commencement of marine construction activities. This will ensure that pre-construction benthic intertidal and subtidal monitoring surveys are carried out. These surveys will include provision for surveying Annex I and OSPAR/Section 7 habitats to help inform placing of infrastructure.
- 8.2.22 Licence conditions will be required to ensure that the outline Invasive Non-native Species Management Plan is submitted to and approved by the Licensing Authority prior to commencement of works.
- 8.2.23 Licence conditions will be required to ensure that construction and post-construction monitoring surveys cover marine mammal monitoring; scour monitoring; cable burial risk assessment; bathymetric surveys and Acoustic Doppler Current Profiler (ADCP) surveys.
- 8.2.24 To prevent injury to marine mammals during construction, licence conditions will be required to ensure that a Marine Mammal Mitigation Protocol (MMMP) is submitted to and approved by the Licensing Authority prior to commencement of works.
- 8.2.25 Licence conditions will be required to ensure that the detailed EMMP is submitted to and agreed by the Licensing Authority pre-commencement of any device deployment. The detailed EMMP will be written in accordance with the requirements of the outline EMMP (v.10) and will include detail on the monitoring and mitigating measures used to understand and minimise operational effects upon diving birds, marine mammals and migratory fish. It will ensure that:
- the deployment of any phase will only occur once NRW PS have confidence, supported by the best available evidence, that an adverse effect on marine mammals or diving seabirds will not occur;
  - the backstop mitigation of ceasing device operation will be implemented, if needed, to prevent a significant adverse effect on marine mammals; and
  - additional modelling (collision risk, encounter rate, underwater noise), as committed to within the EMMP, will be carried out post-consent once the technology to be deployed is confirmed and fully detailed.
- 8.2.26 NRW PS note that the Welsh Minister for Climate Change is 'minded-to' make the TWA Order and grant deemed planning permission subject to the planning conditions (as specified) and amendments (reference qA1346892). NRW PS acknowledge that various mitigation measures are required above Mean High Water Spring (MHWS).

## 9. Regulation 21A Conclusion about Environmental Impact

9.0.1 In reaching a Conclusion about Environmental Impact, NRW has considered the requirements of (Regulation 21A (1)), summarised as follows:

- The Environmental Statement submitted in support of the ML application.
- Further information provided under Reg 14(1), (outlined in Section 3.3).
- The responses to public consultation under Reg 16(2) (g) (outlined in Sections 4 and 7).
- The responses to the technical consultation under Reg 17(1)(a)(iv) (outlined in Sections 6 and 7).
- Any comments received from another EEA state under Reg 20, (as outlined in Sections 5 and 7).
- Any features of the project, or proposed measures, to avoid, prevent, reduce or offset any likely significant adverse environmental effects (as outlined in Section 8).

9.0.2 Following the above, under Reg 21A (2) NRW PS, has considered the likely significant effects of the project, and reached a conclusion of the likely significant effects on:

- Population and human health (outlined in 9.1)
- Biodiversity (9.2)
- Land, soil, water, air and climate (9.3)
- Material assets, cultural heritage and landscape (9.4)
- Risk of major accidents and disasters relevant to the project (9.5)
- Cumulative impacts and in-combination impacts (9.6)

### 9.1 Population and Human Health

9.1.1 The ES has assessed the impact on population and the human environment. The ES carried out a detailed assessment of potential impact on seascapes and landscapes as a result of the development. The Applicant has looked to reduce impact through design and the use of mitigation as discussed within Section 7.19, these include the implementation of restricted areas where floating devices will not be deployed. NRW PS also note that the Welsh Minister for Climate Change is 'minded-to' make the TWA Order and grant deemed planning permission subject to amendments (22 October 2021) (reference qA1346892). These amendments include the triangular extension to the "Restricted Area – Northern" to mitigate seascape, landscape and visual effects on South Stack and the Isle of Anglesey AONB.

9.1.2 As discussed within Section 7.19, whilst NRW PS conclude that visual impacts have been appropriately assessed within the ES, it is considered that a potential significant impact on visual receptors remains after consideration of mitigation. Within Section 1.2.5 of the ES, the applicant sets out the need for the project including its benefit to the local economy and the renewable sector. In addition, the

IACC have agreed a potential compensation package with the applicant. It is noted that within the 'minded-to' letter from the Welsh Minister for Climate Change dated 22 October 2021 (reference qA1346892), condition 22 of the TWA Order would secure measures for landscape enhancement.

- 9.1.3 NRW PS consider that although impacts remain, there has been a clear and convincing case set forward for proceeding with the development by the applicant.
- 9.1.4 As discussed in Section 7.20, NRW PS are satisfied that the potential impacts and concerns on socio-economics, tourism and recreation have been appropriately assessed within the ES.
- 9.1.5 Risks to navigational safety and human life, were considered in the ES chapter 15 (Volume I) and NRA (addendum) and assessed as ALARP or lower with the necessary risk controls and mitigation in place. This includes the requirement to update the site-wide NRA every 2 years and provide a device specific NRA prior to deployment.
- 9.1.6 NRW PS are satisfied that population and human health have been adequately addressed and considering the mitigation and licence conditions outlined in Section 8. NRW PS are satisfied that there will be no significant impact on population or human health as a result of the project apart from potential visual impact that may remain. As set out in Section 7.19 of this consent decision, NRW PS are satisfied that although visual impacts remain, there has been a clear and convincing case set forward for proceeding with the development by the applicant.

## 9.2 Biodiversity

- 9.2.1 The works are within and/or overlap with a number of designated European sites and have the potential to impact these sites. However, a HRA carried out by NRW PS (see Section 3.2.4) concluded that the licensable activities seaward of MHWS would not lead to an Adverse Effect on Site Integrity to these sites or any other sites with relevant marine features taking into account the mitigation measures proposed.
- 9.2.2 The ES considered the impact on biodiversity and identified a number of potential impacts including on marine mammals, ornithology, and benthic habitats where additional mitigation was required. NRW PS consider that although there is a potential for an impact on these features, relying upon the proposed mitigation measures and the implementation of appropriate conditions (see Section 8), a significant impact will be avoided. Key mitigation implemented through the CEMP, PPMP, MMMP, EMMP and biodiversity enhancement plan will ensure a significant impact is avoided. The adoption of a phased approach to deployment and an adaptive management plan, as proposed through the EMMP, is key to addressing potential impacts on seabirds and marine mammals (see Section 7.1).
- 9.2.3 The ES considers the potential for further indirect impacts on biodiversity through possible pollution events and the introduction and/or spread of invasive non-native species. NRW PS consider that biodiversity has been appropriately assessed and conclude that through the mitigation and licence conditions outlined in Section 8, a significant impact on biodiversity will be avoided.

### 9.3 Land, soil, water, air and climate

- 9.3.1 The purpose of the Morlais development, as stated by the Applicant, is to support the development of tidal stream technologies for electricity generation. Therefore, the project aims to positively contribute towards climate change and assist with reducing greenhouse gas emissions.
- 9.3.2 There is, however, an impact pathway to water quality through a potential pollution event, and/or sedimentation during the construction period. The ES has assessed these impacts and proposed mitigation including adherence to a CEMP, and a PPMP which would include pollution prevention best practices. NRW PS consider that the works have been appropriately assessed and that with the mitigation proposed within the ES and proposed conditions outlined in Section 8, no significant impact on water or sediment quality will occur.

### 9.4 Material assets, cultural heritage and landscape

- 9.4.1 The ES has assessed the impact on material assets, including archaeological heritage, valued for socio-economic or heritage reasons and impacts on landscape and seascape. A Written Scheme of Investigation (WSI) will be required and offshore and onshore works will need to be carried out in line with the WSI.
- 9.4.2 NRW PS have noted the requirement for inclusion of The Triangle within the Welsh Minister's 'minded-to' letter dated 22 October 2021 (reference qA1346892) and have accepted an amendment to include the triangular extension to the "Restricted Area – Northern" (see Section 7.19 and Annex 3).
- 9.4.3 Within the Welsh Minister's 'minded-to' letter dated 22 October 2021, NRW PS also note that condition 22 of the TWA Order would secure measures for landscape enhancement.
- 9.4.4 NRW PS are satisfied the DDP will ensure a specific SLVIA is carried out for each deployment of devices and, therefore, continually consider cumulative effects on seascape.
- 9.4.5 NRW PS can conclude that the ES has appropriately assessed the impacts in relation to material assets, cultural heritage and landscape and with the application of mitigation and that the potential impact can be managed by adherence to the marine licence conditions (Section 8). As set out in Section 7.19, NRW PS consider that although visual impacts remain, a condition is provided within the Welsh Minister's 'minded-to' letter dated 22 October 2021 which would secure measures for landscape enhancement and there has been a clear and convincing case set forward for proceeding with the development by the Applicant.

### 9.5 Risk of major accidents and disasters relevant to the project


- 9.5.1 The risk of a major accident or pollution event has been adequately assessed in the ES and identified as a low risk with the application of mitigation and conditioned management measures (see Section 8).
- 9.5.2 NRW PS are satisfied the Flood Consequence Assessment provides a true reflection of flood risks from the project and conclude that these can be appropriately managed.

## 9.6 Cumulative impacts and in-combination impacts

- 9.6.1 The HRA carried out by NRW PS (Section 3.2.4) included an in-combination assessment. Subject to appropriate mitigation, the HRA concluded that the works would not cause a significant impact alone or in-combination on a European designated site.
- 9.6.2 NRW PS have concluded that the potential cumulative impacts due to the project have been adequately addressed within the ES and supplementary documentation.

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Produced By:  
Peter Morrison – Lead Specialist Officer - Marine Licensing


  
Signed:  
Date: 14/12/2021

Colin Trigg – Marine Licensing Officer

  
Signed:

Dated: 14/12/2021

Approved by: John Wheadon – Permitting Service Manager

  
Signed:  
Date: 14 December 2021

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## 10. Regulation 22 EIA Consent Decision

- 10.0.1 NRW PS Marine Licensing Team has considered the application ORML1938 and information provided in support of the application and is now in a position to make an EIA consent decision to Menter Môn Morlais Limited.
- 10.0.2 In accordance with Regulation 22 of the Regulations, NRW PS, as appropriate authority, have considered:
- The application for a marine licence.
  - The Environmental Statement submitted.
  - Further information provided, as outlined in Section 3.3.
  - The Conclusion about Environmental Impact (under Regulation 21A(2)) in Section 9 (dated 14/12/2021), which we consider to be up to date.
  - The responses to public consultation outlined in Sections 4 and 7.
  - The responses to the technical consultation outlined in Sections 6 and 7.
  - Any comments received from another EEA state, as outlined in Sections 5 and 7.
  - Whether monitoring of the significant adverse environmental effects of the Project is appropriate (as outlined in Section 8), including whether:
    - the existing monitoring can be relied upon;
    - the conditions should be attached to the regulatory approval
    - whether conditions to make provision for potential remedial action are required, as outlined in Section 8; and
    - whether any other conditions need to be attached to the regulatory approval, with respect to the likely significant environmental effects of the Project, as outlined in Section 8.
- 10.0.3 We conclude that the environmental impacts of the Project have been adequately identified, described and assessed. Accordingly, we conclude that EIA consent for the project should be given.
- 10.0.4 We consider the works have been appropriately assessed and adequate mitigation strategies have been incorporated to remove or reduce the potential significant impacts associated with the development.
- 10.0.5 We consider that the monitoring and mitigation conditions outlined in Section 8 should be considered in the regulatory decision.
- 10.1 This Written Confirmation of the EIA Consent Decision will be sent to the following, in accordance with Regulation 23 of the Regulations:
- Menter Môn Morlais Limited;
  - any person from whom NRW received representation arising from the consultation described in Section 4;
  - any EEA states consulted (see Section 5), and
  - all consultation bodies listed in Section 6.



10.2 This Written Confirmation of the EIA Consent Decision is available on the NRW online public register at <https://publicregister.naturalresources.wales/> using the application reference number ORML1938.

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Produced By:

Peter Morrison – Lead Specialist Officer - Marine Licensing



Signed:

Date: 14/12/2021

Colin Trigg – Marine Licensing Officer



Signed:

Dated: 14/12/2021

Approved by: John Wheadon – Permitting Service Manager



Signed:

Date: 14 December 2021

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## Annex 1

Further Information Submission Document List following information requested letter dated 2 March 2020.

ref	Title	Document Reference	Submission Date	comment
1	Morlais Assessment of Interactive Boundaries	20UK1619_RN_MM_VTS02-02	08/07/2020	
2	Covering Letter	MOR-MM-DOC-0064	03/07/2020	
3	Signposting Response to Letter 05/06/20	MOR-RHDHV-DOC-0130	03/07/2020	
4	Non-Technical Summary and ES Chapter 27 Summary Addendum	MOR-RHDHV-DOC-0131	03/07/2020	
5	Outline Environmental Monitoring and Mitigation Plan (Revised)	MOR-RHDHV-DOC-0072 (03)	03/07/2020	
6	Fish Ecology Issues Responses to NRW comments (Revised)	MOR-RHDHV-DOC-0114 (02)	03/07/2020	
7	Additional Fish Ecology Responses to NRW comments	MOR-RHDHV-DOC-0132	03/07/2020	
8	CIA Matrix (Revised)	MOR-RHDHV-DOC-0125 (03)	03/07/2020	
9	Addendum to the CIA Chapter	MOR-RHDHV-DOC-0133	03/07/2020	
10	CIA Signposting Document	MOR-RHDHV-DOC-0134	03/07/2020	
11	Cliff Habitat Survey Report	MOR-BSG-DOC-0001	03/07/2020	
12	Cliff Habitat Design Refinement Note	MOR-RHDHV-DOC-0135	03/07/2020	
13	NRA Clarification Note	MOR-RHDHV-DOC-0136	03/07/2020	
14	Navigation Risk Assessment	18UK1479-RN-MM-NRA-20_03	28/05/2020	
15	Cover letter response to ORML1938 Request for Further Information 160420	MOR/MM/DOC/0010	22/05/2020	
16	Response and signposting to ORML1938 Request for Further Information 160420	MOR/MM/DOC/0011	22/05/2020	
17	Signposting for responses to ORML1938_all public representations 210120	MOR/RHDHV/DOC/0135	22/05/2020	
18	Supplementary note to update the NTS and Chapter 27	MOR/RHDHV/DOC/0136	22/05/2020	Superseded by MOR-RHDHV-DOC-0131 (doc 4)
19	Further consultation summary	MOR/MM/DOC/0012	22/05/2020	

20	PDE Matrix Spreadsheet (Including Phase 1 parameters)	MOR-RHDHV-DOC-0127	22/05/2020	
21	Cumulative Impact Assessment Project Screening	MOR-RHDHV-DOC-0125	22/05/2020	Superseded by <i>MOR-RHDHV-DOC-0125 (03)</i> (doc 8)
22	WNMP update	MOR/RHDHV/DOC/0128 (02)	22/05/2020	
23	Response to Chough comments F2.0 PUBLIC	MOR-RHDHV-DOC-0120	22/05/2020	
24	Response to Chough comments CONFIDENTIAL Figures_F1.0	MOR-RHDHV-DOC-0120	22/05/2020	
25	Outline EMMP (Revised)	MOR/RHDHV/DOC/0072	22/05/2020	superseded by <i>MOR-RHDHV-DOC-0072 (03)</i> (doc 5)
26	Partrac hydrographic and geophysical report Vol 1 Operation Report	MOR/RHDHV/DOC/0137	22/05/2020	
27	Vol 2 Survey Report	MOR/RHDHV/DOC/0139	22/05/2020	
28	ISOPACHYTHE	MOR/RHDHV/DOC/0140	22/05/2020	
29	BATHYMETRY	MOR/RHDHV/DOC/0141	22/05/2020	
30	SSS Mosaic	MOR/RHDHV/DOC/0142	22/05/2020	
31	Wave model worst case clarification note	MOR/RHDHV/DOC/0143	22/05/2020	
32	Figure 15-14 GIS kayaking routes and illustrating operational exclusion zones	MOR/RHDHV/DOC/0144	22/05/2020	
33	Proposed Marine Licence condition to secure EMMP	None given	22/05/2020	
34	ML001 Response and signposting to ORML1938_NRW Advisory	MOR/RHDHV/DOC/0129	22/05/2020	
35	ML002 Signposting for responses to ORML1938_ABPMer	MOR/RHDHV/DOC/0127	22/05/2020	
36	ML002(a) Fish Ecology Response to ABPMer comments	MOR/RHDHV/DOC/0127a	22/05/2020	
37	ML005 Signposting for responses to ORML1938_DAERA	MOR/RHDHV/DOC/0138	22/05/2020	
38	ML007 Signposting for responses to ORML1938_IACC	MOR/WSP/DOC/0019	22/05/2020	
39	ML012 Signposting for responses to ORML1938_RSPB	MOR/RHDHV/DOC/0126	22/05/2020	

40	ML013 Signposting for responses to ORML1938_RYA	MOR/RHDHV/DOC/0131	22/05/2020	
41	ML014 Signposting for responses to ORML1938_Trinity House	MOR/RHDHV/DOC/0130	22/05/2020	
42	ML015 Signposting for responses to ORML1938_GAPS	MOR/RHDHV/DOC/0134	22/05/2020	
43	ML016 Signposting for responses to ORML1938_Chamber of Shipping	MOR/RHDHV/DOC/0132	22/05/2020	
44	ML017 Signposting for responses to ORML1938_MCA	MOR/RHDHV/DOC/0133	22/05/2020	
45	ML018 Signposting for responses to ORML1938_WG Fisheries	MOR/RHDHV/DOC/0145	22/05/2020	
46	Project Additional Environmental Information updated	MOR/RHDHV/DOC/0107	02/04/2020	
47	Cover letter	None given	27/03/2020	
48	Project Additional Environmental information	MOR/RHDHV/DOC/0107	27/03/2020	Superseded by MOR/RHDHV/DOC/0107 submitted 02 April 2020 (doc 46)
49	ES Chapter 4 Project Description	MOR/RHDHV/DOC/0004	27/03/2020	
50	ES Volume II Chapter 4 Figures	MOR/RHDHV/DOC/0101	27/03/2020	
51	Welsh National Marine Plan Comparison Note	MOR/RHDHV/DOC/0128	27/03/2020	Superseded by MOR/RHDHV/DOC/0128 (02) (doc 22)
52	Traffic Clarification Note	MOR/RHDHV/DOC/0109	27/03/2020	
53	HR Wallingford Coastal processes modelling report	MOR/HRW/DOC/0001	27/03/2020	
54	Metocean and Physical Processes Numerical Modelling Supplementary Note	MOR/RHDHV/DOC/0112	27/03/2020	
56	Metocean and Physical Processes ES Supplementary Note	MOR/RHDHV/DOC/0111	27/03/2020	
57	Water Framework Directive Compliance Assessment	MOR/RHDHV/DOC/0126a	27/03/2020	
58	ES Volume II WFD Figures	MOR/RHDHV/DOC/0126b	27/03/2020	
59	Benthic and Intertidal Ecology Issues Responses to NRW comments	MOR/RHDHV/DOC/0113	27/03/2020	
60	Fish Ecology Issues Responses to NRW comments	MOR/RHDHV/DOC/0114	27/03/2020	Superseded by MOR-RHDHV-DOC-0114 (02) (doc 6)

61	Marine Ornithology Collision Risk Modelling	MOR/RHDHV/DOC/0115	27/03/2020	
62	Outline Environmental Mitigation and Monitoring Plan	MOR/AEC/DOC/0001	27/03/2020	superseded by <i>MOR-RHDHV-DOC-0072 (03)</i> (doc 5)
63	Confidential Onshore Ornithology Response to Comments on Chough	MOR/RHDHV/DOC/0120	27/03/2020	Superseded by version MOR/RHDHV/DOC/0120 F2.0 submitted in May (docs 23 / 24)
64	Underwater Noise Modelling Report	MOR/RHDHV/DOC/0116	27/03/2020	
65	Marine Mammals Underwater Noise Modelling Note	MOR/RHDHV/DOC/0117	27/03/2020	
66	Marine Mammals Addition Collision Risk Modelling	MOR/RHDHV/DOC/0118	27/03/2020	
67	Marine Mammals Monitoring and Mitigation Options	MOR/RHDHV/DOC/0119	27/03/2020	
68	Navigation and Shipping Responses	MOR/RHDHV/DOC/0124	27/03/2020	
69	Navigation Risk Assessment - Morlais Tidal Demonstration	18UK1479-RN-MM-NRA-20_03	27/03/2020	Superseded by 18UK1479-RN-MM-NRA-20_03 (doc 14)
70	Supplementary Tourism and Recreation Assessment	MOR/BAU/DOC/0001	27/03/2020	
71	Supplementary Socio-economics Assessment	MOR/BAU/DOC/0002	27/03/2020	
72	Outline Skills and Training Action Plan	MOR/MM/DOC/0008	27/03/2020	
73	Outline Tourism and Recreation Monitoring Strategy	MOR/MM/DOC/0009	27/03/2020	
74	Onshore Archaeology Settings Assessment for Offshore Infrastructure	MOR/RHDHV/DOC/0125	27/03/2020	
75	Onshore Archaeology Supplementary Note	MOR/RHDHV/DOC/0122	27/03/2020	
76	Terrestrial Ecology Assessment Update	MOR/RHDHV/DOC/0110	27/03/2020	
77	Terrestrial Archaeology & Walkover Survey Text	MOR/WES/DOC/0001 (1)	27/03/2020	
78	Terrestrial Archaeology & Walkover Survey Figures	MOR/WES/DOC/0001 (2)	27/03/2020	
79	Terrestrial Archaeology & Walkover Survey Plates	MOR/WES/DOC/0001 (3)	27/03/2020	
80	Seascape Landscape and Visual Impact Assessment response	MOR/SLR/DOC/0002	27/03/2020	
81	Outline Landscape Management Plan	MOR/SLR/DOC/0002	27/03/2020	

## Annex 2

### Document List of further information submitted on the 19 February 2021.

MDZ/A16.7	MMC446	MOR-WSP-DOC-0020	Morlais Mitigation Route Map	
MDZ/A17.1	MMC021	MOR-BAY-DRW-0002	TWAO Map1 Location Plan	
MDZ/A17.2	MMC022	MOR-BAY-DRW-0003	TWAO Map2 Location Plan	
MDZ/A17.3	MMC023	MOR-BAY-DRW-0004	TWAO Map3 Location Plan	
MDZ/A17.4	MMC024	MOR-BAY-DRW-0005	TWAO Map4 Location Plan	
MDZ/A17.5	MMC025	MOR-BAY-DRW-0006	TWAO Map5 Location Plan	
MDZ/A17.6	MMC026	MOR-BAY-DRW-0007	TWAO Map6 Location Plan	
MDZ/A17.7	MMC027	MOR-BAY-DRW-0008	TWAO Map7 Location Plan	
MDZ/A25.15 MDZ/A28.59	MMC194	MOR-MSP-DOC-002	Vol 1 Ch 15 Shipping and Navigation (Revised)	ES Volume I Document
MDZ/A28.1 MDZ/A28.53	MMC186	MOR-RHDHV-DOC-0147	ES Volume II Chapter 4 Figures	
MDZ/A28.12 MDZ/A31.13	MMC364	MOR-RHDHV-DOC-0118 (02)	Marine Mammals Addition Collision Risk Modelling	
MDZ/A28.15 MDZ/I1	MMC196	MOR-MCO-DOC-001	Navigation Risk Assessment Addendum - September 2020	
MDZ/A28.18 MDZ/A31.4	MMC353	MOR-RHDHV-DOC-0110 (4)	Terrestrial Ecology Assessment Update	supersedes MDZ/F9
MDZ/A28.2	MMC308	MOR-RHDHV-DOC-0128	Welsh National Marine Plan Comparison Note	superseded by MDZ/A28.57
MDZ/A28.54	MMC187	MOR-RHDHV-APP-00126a	Appendix 8.1 WFD Compliance Assessment	
MDZ/A28.55	MMC188	MOR-RHDHV-DOC-0148	Morlais Project - Air Quality Response	
MDZ/A28.56	MMC191	MOR-RHDHV-DOC-0150	Tagging of Guillemots and Razorbills	
MDZ/A28.57	MMC192	MOR-RHDHV-DOC-0128 (03)	WNMP Comparison Note	supersedes MDZ/A28.2
MDZ/A28.58	MMC193	MOR-BAU-DOC-0003	Supplementary Kayaking And Sailing Activities Assessment	
MDZ/A28.7 MDZ/A31.10	MMC361	MOR-RHDHV-DOC-0115 (03)	Marine Ornithology Collision Risk Modelling Note	supersedes MDZ/F16



MDZ/A31.1	MMC350	MOR-HRW-DOC-0002	Further information on predicted changes to currents	superseded by MMC350(2)
MDZ/A31.11	MMC362	MOR-RHDHV-DOC-0016 (04)	Vol I_Chapter 11: Marine Ornithology	
MDZ/A31.12	MMC363	MOR-RHDHV-APP-0019 (04)	Vol III_Chapter 11.3: Marine Ornithology	
MDZ/A31.14	MMC365	MOR-RHDHV-DOC-0020 (02)	Vol I_Chapter 12: Marine Mammals	
MDZ/A31.15	MMC366	MOR-RHDHV-APP-0022 (02)	Vol III_Chapter 12.2: Marine Mammals	
MDZ/A31.16	MMC367	MOR-RHDHV-DOC-0067 (02)	Information to Support HRA	
MDZ/A31.17	MMC368	MOR-RHDHV-DOC-0154	Marine Mammals Revised Collision Risk Modelling Signposting document	
MDZ/A31.2	MMC351	MOR-MSP-DOC-003	Additional Information to Support Morlais Habitats Regulations Assessment (migratory fish)	
MDZ/A31.3	MMC352	MOR-MSP-DOC-004	Further Environmental Information Benthic_Annex 1 habitats	
MDZ/A31.9	MMC360	MOR-RHDHV-DOC-0153	Marine Ornithology Revised Collision Risk Modelling Signposting document	
MDZ/E10	MMC424		PINS Assessment of Environmental Statement	
MDZ/E11	MMC433		PINS 2nd Assessment of Environmental Statement	
MDZ/F16	MMC190	MOR-RHDHV-DOC-0115 (02)	Marine Ornithology Collision Risk	superseded by MDZ/A28.7_MDZ/A31.10
MDZ/F4	MMC341		Provision of 'Updated assessments for terrestrial ecology (excluding chough) in response to comments made on the ES by NRW and RSPB'	

			Technical Note (the EcIA Update) by MM to NRW (February 2019)	
MDZ/F9	MMC189	MOR-RHDHV-DOC-0110	Terrestrial Ecology Assessment Update	superseded by MDZ/A28.18_MDZ/A31.4
MDZ/G13	MMC007	MOR-MSP-DOC-0020	Restricted Area Plan	
MDZ/L1	MMC476	MOR-RHDHV-DOC-0157	Statement of Common Ground - NRW - Marine Mammals	
MDZ/L2	MMC477	MOR-RHDHV-DOC-0158	Statement of Common Ground - NRW - Ornithology	
MDZ/L5	MMC480	MOR-RHDHV-DOC-0161	Statement of Common Ground - NRW - SLVIA	
MDZ/L6	MMC481	MOR-RHDHV-DOC-0162	Statement of Common Ground - NRW - Other topics	
MDZ/L7	MMC482	MOR-WSP-DOC-0017	Statement of Common Ground - IoACC	
MDZ/L8	MMC483	MOR-RHDHV-DOC-0156	Statement of Common Ground - MCA - Shipping and Navigation	
MDZ/L9	MMC448	MOR-RHDHV-DOC-0155	Statement of Common Ground - Trinity House - Shipping and Navigation	
MDZ/M1	MMC198	MOR-EXT-DOC-001	Aquantis Letter to support scale of Morlais	
MDZ/M2	MMC199	MOR-EXT-DOC-002	Instream Letter to support scale of Morlais	
MDZ/M3	MMC200	MOR-EXT-DOC-003	Sabella Letter to support scale of Morlais	
MDZ/M4	MMC201	MOR-EXT-DOC-004	Orbital Marine Power Letter to support scale of Morlais	
MDZ/M5	MMC202	MOR-EXT-DOC-005	Verdant Power Letter to support scale of Morlais	

MDZ/M6	MMC203	MOR-EXT-DOC-006	Magallanes Letter to support scale of Morlais	
MDZ/N1	MMC001	MOR-EVS-DOC-0014	Statement of Case - Morlais Demonstration Zone	
MDZ/P1	MMC435	Proofs of Evidence	Dr Murray Grant_Ornithology	
MDZ/P10	MMC444	Proofs of Evidence	Dr James Orme_Project Witness	
MDZ/P2	MMC436	Proofs of Evidence	Dr Jennifer A. Learmonth_Marine Mammals	
MDZ/P3	MMC437	Proofs of Evidence	Gordon Campbell_Onshore Ecology	
MDZ/P4	MMC438	Proofs of Evidence	Frank Fortune_Environmental Monitoring and Mitigation Plan	
MDZ/P5	MMC439	Proofs of Evidence	Simon Myers_Seascape, Landscape and Visual impact	
MDZ/P6	MMC440	Proofs of Evidence	Dr Edward Thomas Jones_Socioeconomics	
MDZ/P7	MMC441	Proofs of Evidence	Commander Paul Brown_Marine and Navigational Issues	
MDZ/P8	MMC442	Proofs of Evidence	Andrew Billcliff_Project and Compulsory Acquisition	
MDZ/P9	MMC443	Proofs of Evidence	David Bell_Planning and Policy	
	MMC011(2)	MOR-ESI-DOC-0001 (02)	Morlais Draft Marine Licence Conditions	
	MMC028(2)	MOR-BAY-DRW-0009 (02)	TWAO Map8 Location Plan	
	MMC029(2)	MOR-BAY-DRW-0010 (02)	TWAO Location & Key Plan (Overview Plan)	
	MMC177(2)	MOR-RHDHV-DOC-0125 (04)	Cumulative Impact Assessment Matrix	

	MMC181(2)	MOR-RHDHV-DOC-0133a (02)	Morlais CIA Addendum	
	MMC289(3)	MOR-WSP-DOC-0018 (03)	Proposed Planning Conditions	
	MMC292	MOR-GAT-DOC-0001	Archaeological Evaluation: Trial Trenching Areas 2_3_7_8	
	MMC293	MOR-GAT-DOC-0002	Archaeological Evaluation: Trial Trenching Areas 7,8,10,24,25	
	MMC303	MOR-RHDHV-DRW-0089 (02)	Vol II_Chapter 15: Shipping and Navigation (Revised)	ES Volume II Drawing
	MMC350(2)	MOR-HRW-DOC-0002 (02)	Further information on predicted changes to currents	supersedes MDZ/A31.1
	MMC434		Core Document Library Index	
	MMC447(3)	MOR-RHDHV-DOC-0072 (09)	Outline EMMP	
	MMC555	MOR-RHDHV-DOC-0164	Outline Marine Biodiversity Enhancement Strategy	
	MMC556	MOR-RHDHV-DOC-0165	Rebuttal Proof of Evidence - Marine Mammals	
	MMC557	MOR-RHDHV-DOC-0166	Rebuttal Proof of Evidence - Ornithology	
	MMC558	MOR-AEC-DOC-001	Rebuttal Proof of Evidence - EMMP	
	MMC559	MOR-MCO-DOC-002	Rebuttal Proof of Evidence - Navigation	
	MMC560	MOR-SLR-DOC-0003	Rebuttal Proof of Evidence - SLVIA	
	MMC561	MOR-MM-DOC-0015	Rebuttal to Orthios Proof of Evidence	
	MMC562	MOR-MM-DOC-0016	Rebuttal to Land & Lakes Proof of Evidence	

	MMC563	MOR-EVS-DOC-0020	TWAO and ML Interaction Note	
	MMC571	MOR-MM-DOC-0018	Response to questions raised in the public speaking sessions regarding public consultation	
	MMC572	MOR-MM-DOC-0019	Further updates to UK Government Energy Policy	
	MMC574b	MOR-MM-DOC-0021	Figure 4 (revised) in response to RYA Further Information 161220	
	MMC575	MOR-MM-DOC-0020	Response to comments made by Snowdonia Canoe Club in EIC012 SCC-CW Representation 301020	
	MMC576	MOR-RHDHV-DOC-0167	Responses to TWAO FEI and Modelling Comments from NRW	
	MMC577	MOR-RHDHV-DOC-0168	Potential for Underwater Noise from Operational Turbines and ADDs to Significantly Disturb Marine Mammals	
	MMC578	MOR-RHDHV-DOC-0169	Outline Habitat Enhancement Plan	
	MMC579	MOR-MM-DOC-0022	Further updates to UK & Welsh Government Energy Policy	
	MMC579	MOR-MM-DOC-0022a	Sixth Carbon Budget - Climate Change Committee	
	MMC579	MOR-MM-DOC-0022b	Energy White Paper - Powering our Net Zero Future	
	MMC579	MOR-MM-DOC-0022c1	The path to Net Zero and reducing emissions in <u>Wales_Progress</u>	
	MMC579	MOR-MM-DOC-0022c2	The path to Net Zero and reducing emissions in <u>Wales_Executive</u>	

	MMC579	MOR-MM-DOC-0022d	UK Government signs North Wales Growth Deal	
	MMC580	MOR-MCO-DOC-002	Responses to TWA0 FEI on Navigation	
	MMC581	MOR-BAV-DOC-001	Note on EMF EMR	
	MMC582	MOR-EVS-DOC-0021	Note on Condition 15 and securing Tourism and Monitoring Strategy	
	MMC583	MOR-EVS-DOC-0022	Morlais letter to the RYA	
	MMC584(2)	MOR-EVS-DOC-0015 (05)	Welsh Statutory Instrument – Morlais TWA0	
	MMC585(2)	MOR-EVS-DOC-0016 (05)	Morlais Demonstration Zone - order changes tracker	
	MMC586(2)	MOR-EVS-DOC-0017 (05)	Explanatory Memorandum	
	MMC587(2)	MOR-EVS-DOC-0018 (05)	Explanatory Memorandum compareite	
	MMC588(2)	MOR-EVS-DOC-0019 (05)	Welsh Statutory Instruments - compareite	
	MMC591	MOR-BAY-DRW-0011	TWA0 Map8 Location Plan - tracked changes	
	MMC592	MA-LG-4496-20	Special Category Land Certificate	
	MMC593	MA-LG-4496-20	Special Category Land Decision Letter	
	MMC594	MOR-EVS-DOC-0024	Section 106	
	MMC595	MOR-EVS-DOC-0025	Section 106 - compareite	
	MMC596(2)	MOR-EVS-DOC-0026 (02)	Proposed Planning Conditions - changes tracker	



	MMC599	MOR-RHDHV-DOC-0170	Menter Môn Comments on NRW Request for Further Information and Stakeholder Marine Licence Consultation Responses	
	MMC600	MOR-MM-DOC-0024	Morlais Socio-Econ Response to NRW ML Request for FEI	

Annex 3

Accepted amendment to Figure 4-5 in Volume II Chapter 4 of the ES

