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Morlais Project

Document MOR/RHDHV/DOC/0156: Statement of Common Ground – MCA – Shipping and Navigation

Applicant: Menter Môn Morlais Limited

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– Shipping and Navigation

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Revision History			
Date	Rev.	Summary of Changes	Issue Purpose
10/07/20	0.1	First draft for review by Menter Môn	For comment
10/08/20	1.0	Draft for approval by MCA/TH	For approval
20/08/20	1.1	Second draft splitting MCA and TH comments	For approval
08/09/20	1.2	Inclusion of TWAO References	For approval
08/10/20	1.3	Update following delivery of NRA Addendum and amended ES Chapter	For approval
22/10/20	1.4	Update following receipt of MCA Statement of Case Responses	For Approval
30/10/20	1.5	Agreement on additional wording requested by MCA	For Approval

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1. INTRODUCTION

1.1. THE PROJECT

1. The Project is being developed by Menter Môn, the applicant, a not for profit social enterprise company. When consented, the Project will have a generating capacity of up to 240 MW of tidal generating capacity.
2. The Project is located within one of several marine energy demonstration zones located around the United Kingdom (UK) coast, which have been leased out by The Crown Estate in a bid to encourage and accelerate the marine energy industry. The Project is located within the West Anglesey Demonstration Zone (WADZ), a zone primarily selected for its tidal resource. Menter Môn has been appointed as the manager of the WADZ by The Crown Estate. In this document, the WADZ is referred to as the Morlais Demonstration Zone (MDZ).
3. The development of the Project will provide a consented tidal technology demonstration zone, specifically designed for the installation and commercial demonstration of multiple arrays of tidal energy devices. The Project will include permanent communal infrastructure for tidal technology developers which provides a shared route to a local grid connection via nine export cable tails, an onshore landfall substation, and an onshore electrical cable route to a grid connection via a grid connection substation.
4. The Project will be authorised via the following principal consents:
 - A Transport and Works Act Order under the Transport and Works Act 1992; and
 - A Marine Licence under the Marine and Coastal Access Act 2009 (MCAA).

1.2. THE DEVELOPER

5. Development of the MDZ is being led by Menter Môn who have been allocated funding from European Union (EU) Structural Funds prioritised for marine energy in Wales. Menter Môn is a not for profit, third sector social enterprise, delivering socio-economic development projects across North Wales. Menter Môn's motivation for the Project is to position itself as a community organisation at the centre of renewable innovation, and to establish Anglesey as a marine energy hub, thereby securing maximum added value for the local economy and community.

1.3. THE NEED FOR THE PROJECT

6. Tidal energy is a clean, renewable and highly predictable source of energy. The EU has identified tidal energy, and more widely ocean energy (tidal and wave combined), as having the potential to contribute significantly to climate change reduction, socio-economic and energy security objectives. The Project would present a significant proportion of the Welsh carbon budgets.
7. In allowing long-term commercial demonstration of different technologies and small arrays of tidal devices, the Project is an important step in developing the tidal energy industry within the UK and internationally, with significant potential socio-economic benefits as well as contributing towards the reduction of greenhouse gas emissions and greater security of energy supply.

8. Development of the Project will support those objectives of the 2017 Anglesey and Gwynedd Joint Local Development Plan, aimed at promoting the development of renewable or low carbon energy technologies (Isle of Anglesey County Council and Gwynedd Council, 2017). The Project will prioritise maximising opportunities for local communities directly via employment and indirectly via the establishment of a local supply chain.

1.4. ROLE OF POLICY AND LEGISLATION IN THE DECISION MAKING PROCESS

9. The Environmental Statement (ES) submitted alongside the consent applications in 2019 identifies the key National and European legislative and policy drivers and commitments in areas of climate change and renewable energy which are relevant to the Project. Each technical topic within the ES outlines how the development of the Project will comply with the requirements of national legislation and policy, local plans and technical guidance.
10. The ES provides consideration of the key legislation, including the Well Being of Future Generations (Wales) Act 2015, which promotes improvement of the social, economic, environmental and cultural well-being of Wales. The developers of the Project also have a desire to increase and diversify employment and economic development opportunities across the communities. The Project will have no significant negative impact on health and wellbeing and is expected to have a minor beneficial impact to a number of receptors.
11. National Policy Statements (NPS) are produced by Government and comprise the Government's objectives for the development of projects in a particular sector. Those relevant to the Project give reasons for the policy set out in the statement and include an explanation of how the policy takes account of Government policy relating to the mitigation of, and adaptation to, climate change.
12. The Marine Policy Statement (MPS) supports marine renewable developments and suggests that adaptation and mitigation methods for these technologies may be supported by detailed monitoring programmes and co-ordinated research initiatives, including post deployment of devices. This approach is being followed by Menter Môn, with the intention to supply a detailed environmental monitoring and mitigation plan.
13. Planning Policy Wales (PPW) outlines the Welsh Government's approach to ensuring that the planning system contributes to the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.
14. The Welsh National Marine Plan (WNMP) outlines the following aspects that Menter Môn should be undertaking to ensure that the Project is in accordance with the plan:
 - Engage early across and between relevant stakeholders;
 - Apply the general cross-cutting and sector-specific policies set out in this plan to guide proposals;
 - Consider the potential beneficial and adverse impacts of their proposed activity on the economy, society and the environment; minimise adverse effects and maximise opportunities for coexistence and securing multiple benefits;

- Supply the information required for the relevant public authorities to assess their proposal(s) including fit with relevant planning policy; and
- Ensure that evidence provided is sound and proportionate given the development in question and its associated risks.

15. Guidance on the assessment requirement was primarily sought from the Maritime and Coastguard Agency (MCA) Marine Guidance Note (MGN) 543 (M+F) which replaces MGN 371. MGN 543 advises the correct methodology to evaluate navigation safety around Offshore Renewable Energy Installations (OREIs). The full list of guidance used is as follows:

- MGN 543 Guidance on UK Navigational Practice, Safety and Emergency Response Issues;
- MGN 372 Guidance to Mariners Operating in the Vicinity of UK OREIs;
- MGN 166 Guidelines for Voyage Planning;
- MGN 543 Annex 5 Offshore Renewable Energy Installation: Requirements, Advice and Guidance for Search and Rescue and Emergency Response.
- International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA AISM) 0-139 the Marking of Man-Made Offshore Structures;
- International Maritime Organisation (IMO) Formal Safety Assessment. Revised Guidelines for Formal Safety Assessment (FSA) MSC-MEPC.2/Circ.12/Rev.2;
- Methodology for Assessing Marine Navigational Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI)
- Royal Yachting Association (RYA) Position on Offshore Energy Developments;
- Regulatory expectations on moorings for floating wind and marine devices – HSE and MCA 2017;
- Cumulative Impact Assessment Guidelines issued by RenewableUK in June 2013; and
- International Regulations for Preventing Collisions at Sea 1972 (as amended) (COLREGS).

1.5. PURPOSE OF THIS DOCUMENT

16. This Statement of Common Ground (SoCG) is a 'live' document that has been prepared by MarineSpace on behalf of Menter Môn to record the outcomes of technical discussions with the Maritime and Coastguard Agency (MCA) regarding shipping and navigation. It has been prepared in accordance with guidance published by the Planning Inspectorate and available from the Assembly Government's website (Welsh Government, 2019).
17. Paragraph 1 of the Guidance states that SoCG: *are joint statements made by the appellant/applicant and other parties such as the local planning/relevant authority. The aim of the document is to agree factual information and to provide a commonly understood basis for the appellant/applicant; the local planning/relevant authority and/or other parties.*
18. Although not required as statutory documents under Schedule 5 and 6 of the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006, Menter Môn

is submitting SoCG on key technical issues, including ornithology, marine mammals, seascape and landscape visual impact assessment (SLVIA), and shipping and navigation. Although there is no statutory requirement, SoCG are useful tools and their submission is encouraged where a SoCG contributes to an improvement in the quality of the evidence and a reduction in the quantity of material which needs to be considered (Welsh Government, 2019).

19. The aim of this SoCG is to provide a clear position of the state and extent of matters relating to the Project which are agreed and not agreed between Menter Môn and MCA at the time of writing. The SoCG will continue to evolve in the lead up to and during the post application period.
20. This first draft of the SoCG for shipping and navigation was provided to MCA by Menter Môn on 10th August 2020 for review and comment. MCA requested a stand alone document just covering the items as discussed with MCA and so this second draft was produced and delivered to MCA by Menter Môn on 20th August 2020. The final SoCG was agreed with MCA on the 13th November 2020.
21. The document will be updated as more information becomes available and as a result of ongoing discussions between Menter Môn and MCA. Updates are recorded in the “Revision History” table provided on the front page of this document.
22. This document should be read in conjunction with the relevant technical chapters in the ES; **Chapter 15, Shipping and Navigation (Revised)(Volume I** of the ES document reference MMC194 MOR-MSP-DOC-002), **Navigation Risk Assessment** (version 3, document reference 18UK1479-RN-MM-NRA-20_03) and the Navigation Risk Assessment Addendum (document reference MMC196 MOR-MCO-DOC-001).

2. PROJECT DESCRIPTION

2.1. OVERVIEW

24. The Project will provide the supporting electrical infrastructure to connect tidal energy converters (TECs) within the MDZ and export the electricity generated to grid. The Project aims to secure a broad consent envelope, which will encompass a range of tidal device types and technologies with the potential to be installed and operated as part of the Project. The final details of all equipment to be installed, including tidal devices, will be confirmed following consent.
25. The Project comprises two development areas, as follows:
- Offshore Development Area: including all intertidal and offshore areas where offshore infrastructure may be placed and encompassing the MDZ (covering an area of 35 km²), and the export cable corridor (covering an area of 4.75 km²).
 - Onshore Development Area: including all intertidal and onshore areas where infrastructure may be placed (covering an area of 1 km²).
26. As a pre-consented and grid connected commercial demonstration zone, a number of different tidal devices and array configurations may be deployed at the Project over its 37-year lifetime. Tidal devices will be deployed in multiple arrays within the MDZ, to a maximum installed capacity of 240 MW.
27. The key components of the offshore works associated with the include:
- Tidal Devices, TECs and inter-array cables within the MDZ;
 - Up to nine export cable tails (shared with onshore components);
 - Navigation and environmental monitoring equipment;
 - Mooring and foundation structures; and
 - Offshore electrical infrastructure, including submerged, floating or surface emergent hubs.

2.2. OFFSHORE WORKS

2.2.1. Tidal Devices

28. Tidal devices comprise of the TEC, the supporting structure, and the anchor or foundation. Several representative tidal technologies have been considered in order to capture the likely range of TECs that may be demonstrated within the MDZ.
29. Using three generic types of tidal device as exemplars shown in **Plate 2-1**, **Plate 2-2** and **Plate 2-3**, the TEC support structure may be seabed mounted and submerged, buoyant and mid-water column or floating. The TECs to be installed will fall into one of two main types as shown in **Plate 2-4** horizontal axis (axial flow) rotors; or vertical axis (cross flow) rotors.
30. Note that the actual form of tidal devices and numbers of TECs supported will differ between the technologies deployed. Following consent award, tidal device developers will be allocated “berths” within the MDZ, within which they will be able to deploy anything from one device to

arrays of multiple tidal devices. Repowering may also be undertaken over the project lifetime. Repowering is the replacement of one array of tidal devices with another array of tidal devices, normally with a different, newer or/and updated technology. Array deployments will vary in duration; therefore, the allocation of berths will be repeated throughout the life of the Project, as berths become available and are repowered.

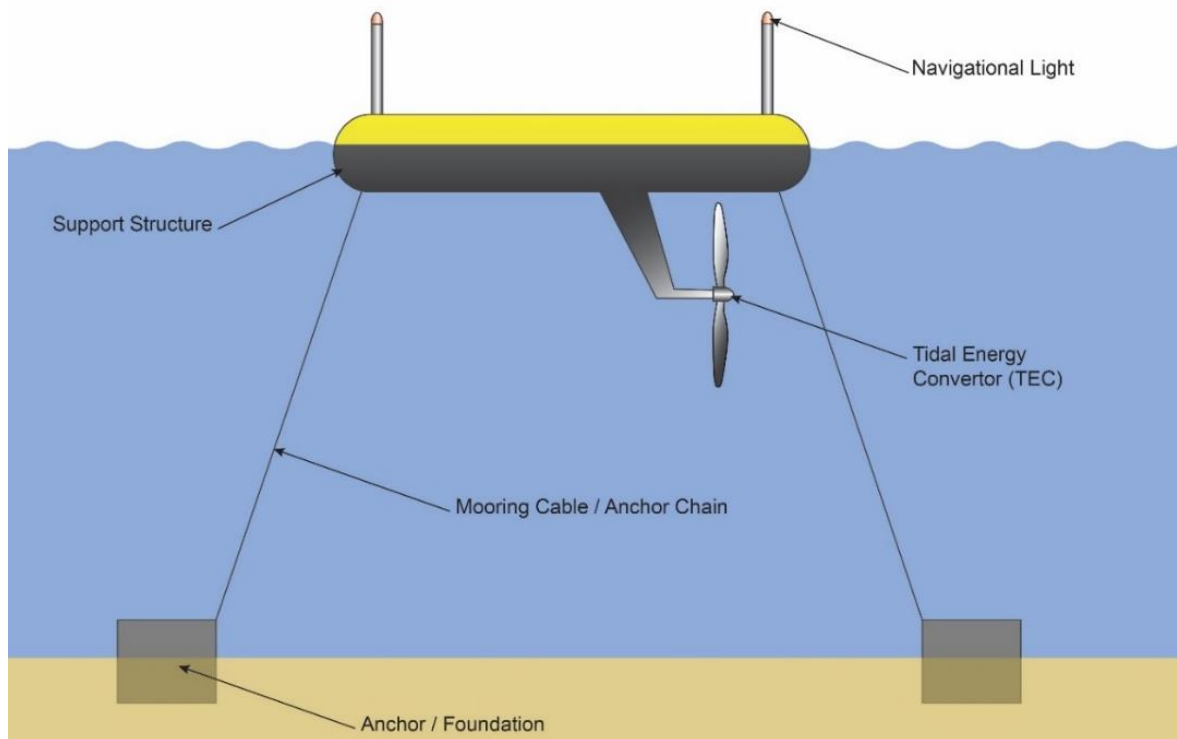


Plate 2-1 Generic Tidal Device Exemplar 1 – Floating or Surface Emergent Tidal Device, Comprised of TEC, Support Structure, Mooring Cables / Anchor Chains and Anchors / Foundations

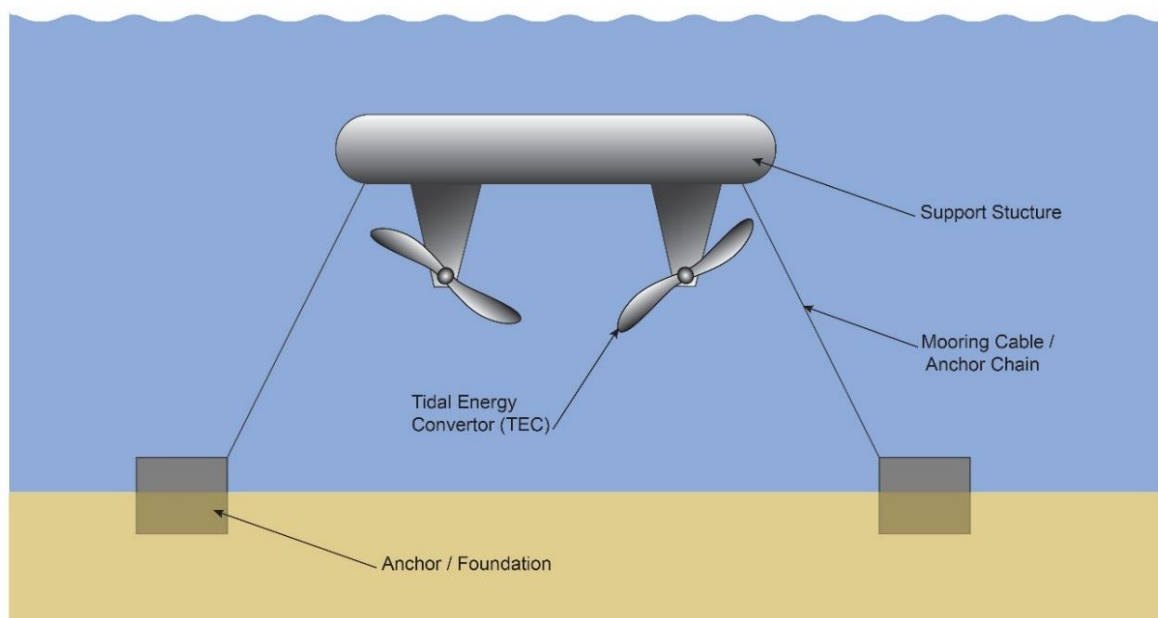


Plate 2-2 Generic Tidal Device Exemplar 2 – Mid Water Column Tidal Device, Comprised of TEC, Support Structure, Mooring Cables / Anchor Chain, and Anchor / Foundation. Note this device is shown facing into direction of current flow

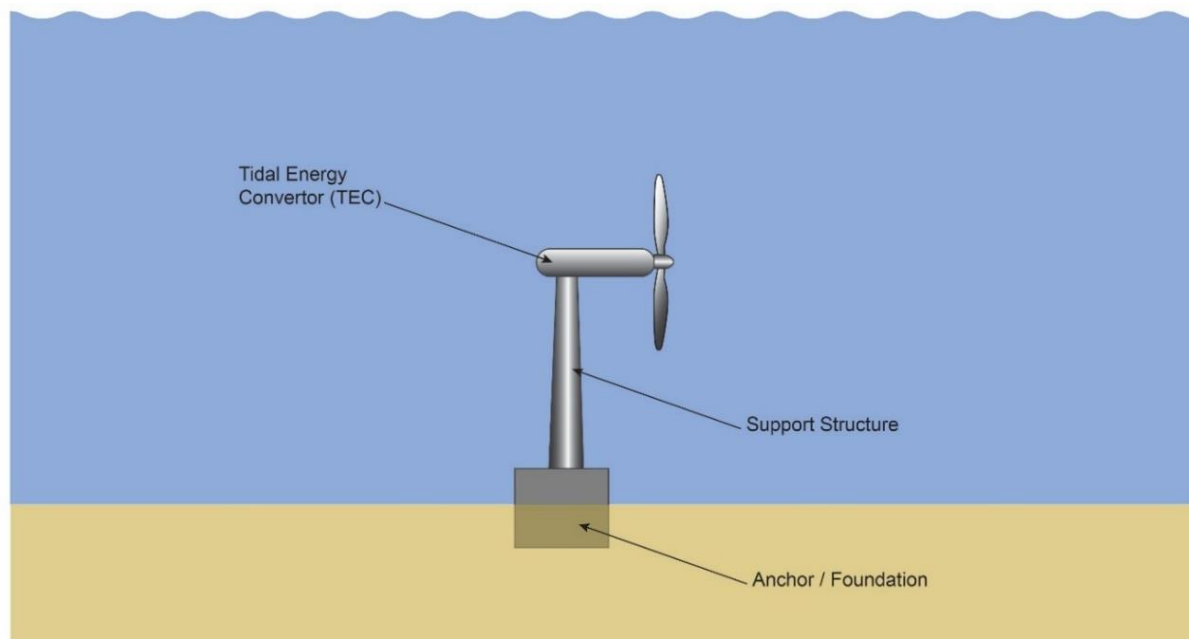


Plate 2-3 Generic Tidal Device Exemplar 3 – Seabed Mounted Sub Surface Tidal Device with TEC Supporting Structure and Foundation

31. **Plate 2-4** shows the two generic forms of TEC that may be mounted on the generic tidal device exemplars shown in **Plate 2-1** to **Plate 2-3**. These may be either horizontal axis or vertical axis TECs.

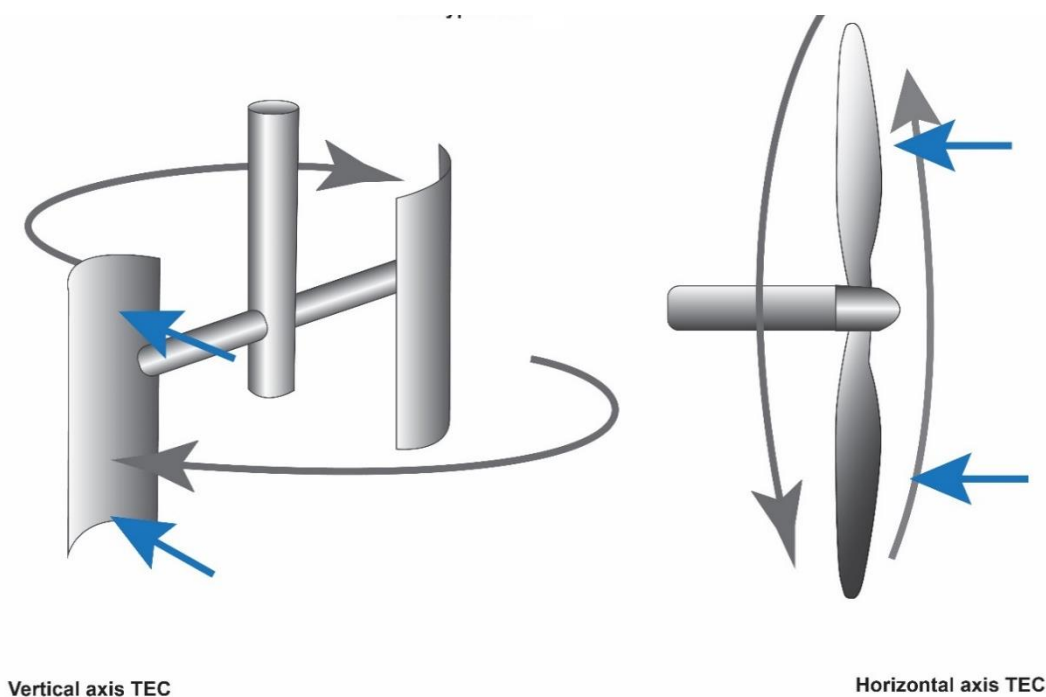


Plate 2-4 Illustration of Horizontal and Vertical Axis TEC Types

2.2.2. Export Cables

32. From the arrays of tidal devices, electricity will be transmitted via subsea inter-array cables to an offshore hub or other connection point(s), from which subsea export cables will connect to export cable tails in the nearshore, with the export cable tails continuing to landfall.
33. On reaching shore the export cable tails will be joined to underground onshore cables via an underground transition pit or bay, near to the point of landfall.

3. RECORD OF CONSULTATION

34. The preparation of this SoCG has been informed by a programme of discussions between consultants acting on behalf of Menter Môn and MCAH. The relevant meetings are summarised in **Table 3-1** and the outline of topics covered relevant to SoCG discussions for shipping and navigation are shown in **Table 3-2**.

Table 3-1 Shipping and Navigation Technical Meeting Details

Meeting / Date / Attendees	Agenda	Documents sent to MCA/TH prior to meeting
October 2018	EIA Scoping Report Responses	EIA Scoping Report
17 th October 2018	NRA Phase 1 Consultation with MCA	
29 th January 2019	Preliminary Hazard Analysis (PHA)	
4 th February 2020	<ul style="list-style-type: none"> ▪ Welcome and Introductions ▪ Update on the present project status ▪ Explanation regarding the issuing of the incorrect NRA ▪ TH Response to the ML/TWAO ▪ Restriction of Navigation and exclusion of fishing ▪ Additional Mitigation Measures. ▪ Separate NRA for each site. ▪ Lighting and marking ▪ Access to South Stack ▪ Additional Comments ▪ MCA Response to the ML/TWAO ▪ Recommended Mitigation Measures ▪ Interactive Boundaries ▪ Under Keel Clearance calculations ▪ Additional Mitigation Measures ▪ Comments on ES Nav Chapter ▪ Discussion regarding devices greater than 20m only in Zone 1 ▪ Redesign Eastern Boundary ▪ Sea Room issues ▪ Risk Matrix ▪ Emergency Response ▪ Additional Comments ▪ Agree Actions and Delivery ▪ AOB 	
24 th June 2020	<ul style="list-style-type: none"> ▪ Project Update ▪ Review of Action Tracker ▪ Any Additional Comments ▪ Statement of Common Ground ▪ AOB 	<p>Updated List of Embedded and Additional Mitigation Measures</p> <p>Interactive Boundary Assessment</p> <p>Revised Risk Matrix</p>

Table 3-2 Statement of Common Ground – Shipping and Navigation – MCA

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
Environmental Impact Assessment (EIA) – Baseline Environment						
1. Study Area	17/10/18 NRA Phase 1 Consultation with MCA	<p>The MDZ is located to the west of Holy Island, Anglesey, 500 m off South Stack and occupies a total area of 35 km² and has been nominally sub-divided in to eight indicative subzones.</p> <p>In order to assess the potential impact of the MDZ on shipping and navigation, a worst-case layout has been assumed throughout the Navigation Risk Assessment (both surface and sub-surface) within the NRA. As a finalised layout was not available for the assessment, the NRA assumes any combination of device types may be deployed up to a maximum 240 MW (worst-case capacity).</p>		Approach Agreed	Agreed	
Eastern Boundary	24/06/20 Meeting to close out actions	A revised project design layout has been provided which addresses previous comments with regard to the difficulty to navigate along the western boundary of the <8m UKC zone and also widens the zone to provide greater sea room from navigators. This is supported by the information provided in the interactive boundary assessment.		The revisions to the <8m UKC zone along the eastern boundary, including straightening the weather boundary and widening the zone overall, were discussed and generally welcomed by the MCA for addressing concerns raised by the RYA.	Agreed	
Summary of Potential Impact Tables	04/02/20 Meeting to discuss representation letters	<p>Tables supplied summarising the Potential Impacts on Shipping and Navigation Associated with the Development of the Project across the various phases of development.</p> <p>MarineSpace explained that during the drafting of the ES chapter terminology was discussed at length and an attempt was made to ensure some consistency was maintained across the project using the term “Impacts”. However, the risk assessment as detailed in the NRA was still used in the ES</p>		In their representation the MCA noted inconsistencies between the risk matrices in the NRA and ES. The NRA lists each hazard, scores them and lists possible risk control measures. The ES however, does not use the NRA hazard list, instead	Agreed	Morlais to provide a cross referenced risk matrix showing the link between the NRA hazard list and the ES impacts.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		chapter so that impacts were then assessed based on risk using the same criteria and scoring as used in the NRA.		<p>some of the NRA hazards have been included along with combined hazards which are described as 'Impacts' e.g. "Potential Impacts to Commercial Vessels". These have then been scored.</p> <p>To assist in making the connection between the NRA and the ES the MCA requested a risk control log of embedded and additional mitigation measures to confirm what is proposed for the project.</p>		
	24/06/20 Meeting to close out actions	A Risk Matrix has been developed which cross references the Hazards from the NRA with the Impacts assessed in the ES chapter and demonstrates that all 46 Hazards have been used in assessing the various different impacts.		<p>MCA was content with the risk matrix provided which confirmed that Morlais continue to engage with the RYA to address concerns raised and will continue to provide updated information to the RYA as the applications processes continue.</p> <p>Mitigation measures referenced in the Risk Matrix will need to be reviewed in light of comments on embedded and additional mitigation measures.</p>		Updated Risk Matrix will be supplied in the amended Navigation and Shipping ES Chapter once the NRA Addendum is finalised
Hydrographic Surveys	24/06/20	In accordance with MGN 543 Annex 2 Section 6 a full hydrographic survey has been undertaken in accordance the		The MCA raised the issue of Hydrographic survey	Agreed	

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
	Meeting to close out actions	<p>requirements of the MCA's 'Hydrography Guidelines for Offshore Developers'.</p> <p>Post Construction surveys of cable routes will also be undertaken in accordance the requirements of the MCA's 'Post-Construction Hydrographic Guidelines for Offshore Developers'.</p> <p>Hydrographic surveys will be completed post-decommissioning of all or parts of the development: Cable route(s) and the area extending to 500m from the installed generating assets area in accordance the requirements of the MCA's 'Post-Construction Hydrographic Guidelines for Offshore Developers'.</p>		requirements highlighting the pre and post installation surveys will be required.		

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
Navigation Risk Assessment						
Preliminary Hazard Assessment	17/10/18 PHA Meeting	<p>Preliminary Hazard Assessment (PHA) was undertaken through consultation with a range of stakeholders. A meeting was held with the MCA to outline the proposed approach to the NRA process.</p> <p>Safety Zones would be monitored and enforced through active monitoring arrangements such as guard vessels and control centre. Final mitigation plans will be agreed prior to the construction once the final details are known.</p> <p>The Project does not “cut” any established inshore navigation route although the NRA does consider the impact of narrowing the available sea space within the inshore route and pinch points.</p> <p>Passage through the area is assessed in the NRA.</p> <p>The Project will adhere to the MCA Guidance on Offshore Renewable Energy Installation: Requirements, Advice and Guidance for Search and Rescue and Emergency Response.</p>	Clause 43.	<p>The MCA agreed with the proposed approach to the NRA process.</p> <p>Initial concerns expressed by the MCA were the size of the project area – a Safety Zone would result in a large area that will be unavailable for navigation. What would be the impact of a no-go zone of this size? How would it be enforced and monitored?</p> <p>Concerns over cutting off the inshore route. MCA questioned which vessel types are utilizing this route. Is it recreational or are other vessel types also present?</p> <p>MCA questioned if a route through the site would be possible and discussed the practicalities of navigating through comparatively narrow east/west channels especially at night, in poor visibility and high sea states.</p> <p>MCA questioned the effect of the site on search and rescue in the area.</p>	Agreed	

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
Scope and Methodology	04/02/20 Meeting to discuss representation letters	Vessel traffic data acquired is fully compliant with the requirements of MGN 543.		MCA confirmed that the vessel traffic data acquired for the project and presented in the NRA and ES is fully compliant with their requirements and those of MGN 543. Should Morlais wish to also consider the RYA Atlas data then that may be helpful but is not specifically required.	Agreed	
NRA Addendum	24/06/20 Meeting to close out actions	Morlais to provide NRA Addendum.		MCA suggested that a good way to incorporate the range of items that have been covered in recent meetings would be to issue an Addendum to the NRA. The MCA confirmed that such an Addendum would not trigger any requirements for additional vessel traffic surveys.	Agreed	Morlais to provide NRA Addendum. Delivered 18 th October 2020
Data Sources	17/10/18 NRA Phase 1 Consultation with MCA	The Navigation Risk Assessment utilised the following data sources: <ul style="list-style-type: none"> Automatic Identification System (AIS) data; RADAR data; GIS shapefiles; Maritime Incident Data (Maritime Accident Investigation Branch (MAIB) 1997-2017; Admiralty Sailing Directions –West Coast of England and Wales Pilot, NP37, 19th Edition, 2014; and 		MCA confirmed that the vessel traffic data acquired for the project and presented in the NRA and ES is fully compliant with their requirements and those of MGN 543 MCA requested that radar data be collected for the site to capture non-AIS carrying vessels in	Agreed	

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<ul style="list-style-type: none"> • UK Admiralty Charts: 1970, 1413 (All cartography in this report, unless otherwise stated, is to WGS84 UTM Zone 30N standard. All marine charts are in a Mercator projection. Charts are not suitable for navigational purposes). <p>AIS and RADAR data were collected over a two week period in the summer during 2017 between the 26th August and the 9th September and two week period in the winter during 2019 between 5th April and 19th April to better understand the traffic profile of vessels transiting the project area and any potential impacts the Project may have upon navigation. It is noted that an additional winter survey was undertaken in 2017, however, given that the survey would exceed the maximum 24-month validity period, as stipulated within MGN543, an up-to-date survey was acquired. In addition to the requirements six months of AIS data from between October 2017 and March 2018 were additionally sourced to account for any seasonal variances in ferry activity and usage of the poor weather routes. To overcome the limitations posed by utilisation of AIS alone and in line with MGN 543 requirements, winter and summer radar surveys were undertaken for representative summer and winter periods.</p>		<p>accordance with MGN 543. Marico explained that two radar surveys had already been undertaken meeting the 28-day requirement laid out in MGN 543.</p> <p>The winter survey undertaken by Marico was collected in March 2017, and as such will be at the boundary of the 2-year data validity period at the time of application submission.</p> <p>The option of purchasing additional winter AIS data was being explored both to 'back-up' the winter survey validity, and to allow more detailed analysis of the ferry bad-weather route. 6 months 2017 – 2018 had currently been quoted.</p> <p>MCA thought that the additional data would be useful and 6-months over one winter would be ample and over and above MGN 543 requirements.</p>		
Stakeholder Consultation	17/10/18 NRA Phase 1 Consultation with MCA	Stakeholder consultation was undertaken with local and national consultees, as part of the Preliminary Hazard Analysis (PHA) initially (Phase 1 - National) and to inform the NRA (Phase 2 – Local and National) in accordance with MGN 543.		All relevant local stakeholders must be consulted, including Trinity House, Chamber of Shipping, RYA and other recreational and fishing	Agreed	Stakeholder Engagement Undertaken

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		Stakeholder consultation has been ongoing and is detailed in Table 15-2 of the NRA Addendum		<p>vessel organisations, ports and harbours navigation authorities.</p> <p>The MCA were supplied with a final list of stakeholders. MCA agreed that those identified should be consulted. There may be other relevant local contacts.</p> <p>MCA suggested research be undertaken to establish if there are any marinas and slipways in use near to the project.</p> <p>The approach to consultation was discussed outlining that consultation will be undertaken according to stakeholder groups (e.g. Recreational, Fishing, RYA/Search and Rescue) as opposed to a stakeholder workshop to ensure feedback is unbiased. MCA were happy with consultation approach.</p>		
Under Keel Clearance	04/02/20 Meeting to discuss representation letters	<p>Consultation and vessel draught analysis has established two critical minimum UKC values required in order to maintain continued and safe navigation as follows:</p> <p>Vessels with a draft of less than 3m minimum UKC of 8m</p> <p>Vessels with a draft of >3m minimum UKC of 20m</p>		The NRA details the methodology for determining UKC but it is unclear why an UKC of 20m was selected for	Agreed	Morlais provided clarification on the calculation of UKC.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
				Commercial and Passenger Vessels.		
	24/06/20 Meeting to close out actions	<p>Morlais provided clarification:</p> <p>With reference to the calculation of Under Keel Clearance UKC for Commercial and Passenger Vessels. The MCA <i>'Guidance to Developers in Assessing Minimum Water Depth over Tidal Devices – Under Keel Clearance Policy Paper'</i> states that device height including a vertical safety margin along with vessel draught are two key factors that need to be considered when determining UKC. Given that the devices to be deployed at Morlais were unknown, the calculation as described in the policy paper was unable to be applied to known tidal device scenarios. It was, therefore, recommended in the MGN 543 checklist, Annex E, Section 3C, that UKC should be assessed on a case by case basis for each device within Device Specific Navigation Risk Assessments. In lieu of known device heights, the NRA focused instead on establishing the minimum required vessel UKC (draught*dynamic factor* safety margin) that the commercial operators require to maintain safe passage, irrespective of tidal device, which was informed by consultation:</p> <p>Irish Ferries:</p> <p><i>'An adequate UKC to allow continued navigation would be 2 x draughts below the keel (total 3 draughts). This would result in a 20m minimum clearance as with Minesto'.</i></p>		<p>MCA were happy with the clarification provided on this point which provided a logical argument as to why key UKC figures have been used in the NRA.</p> <p>MCA requested that the UKC clarification be included in a formal document for future reference.</p>	Agreed	Details of the calculation of the UKC have been included in NRA Addendum.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)															
		<p>Stena:</p> <p><i>'Normal draught is 6m. In bad weather pitch is 6m greater = 12m at mean low water springs. Passage planning outside of the 15m contour. A mid-water device at 15m therefore, wouldn't cause issues'.</i></p> <p>The following draughts of passenger vessels operating along the northern route were given in the NRA. The corresponding required UKC for each vessel, given the approach above, is given on the left, where:</p> <p>Dynamic factor : 2 x draught to account for vessel motions in accordance with PIANC principles.</p> <p>Safety Margin : 30% as stipulated within MCA UKC Policy Paper.</p> <table><tr><th>Vessels</th><th>Draught</th><th>Required Vessel UKC (m)</th></tr><tr><td>OSCAR WILDE</td><td>6.7</td><td>17.4</td></tr><tr><td>SUPERFAST X</td><td>6.6</td><td>17.2</td></tr><tr><td>ULYSSES</td><td>6.5</td><td>17</td></tr><tr><td>STENA HORIZON</td><td>6.5</td><td>17</td></tr></table>	Vessels	Draught	Required Vessel UKC (m)	OSCAR WILDE	6.7	17.4	SUPERFAST X	6.6	17.2	ULYSSES	6.5	17	STENA HORIZON	6.5	17				
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NRA Methodology	17/10/18NRA Phase 1 Consultation with MCA	Following vessel traffic analysis and stakeholder consultation a risk assessment was undertaken to assess the change in risk during both the construction and operation phases. The risk assessment was conducted in accordance with the International Maritime Organisation (IMO) Formal Safety Assessment (FSA) methodology for risk assessments.		MCA agreed with the proposed risk assessment Methodology.	Agreed																

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Cumulative Impacts	17/10/18 NRA Phase 1 Consultation with MCA	<p>The risk as a result of cumulative impacts driven by the proximity of the proposed Morlais Zone to existing projects and associated infrastructure is determined to be low risk. As such, cumulative impact specific risk controls in addition to those recommended within the project specific risk assessment are not proposed.</p> <p>However, Morlais will maintain communication with the Minesto Holyhead Deep Tidal Demonstration project to ensure effective procedures are in place to reduce risks that may result from project interactions.</p>		<p>Adjacent Minesto Holyhead Deep Tidal Demonstration site was mentioned, as it was likely an application for Safety Zones at this site had been submitted. MCA would consider the status of Minesto as part of any internal assessment, and where any information was already in the public domain, would be mentioned to the applicant if appropriate.</p>	Agreed	
Interactive Boundary Assessment (IBA)	04/02/20 Meeting to discuss representation letters	IBA to be provided by Morlais.		MCA requested an IBA be undertaken in accordance with MGN 543 Annex 3 for the northern and eastern boundaries.	Agreed	IBA provided by Morlais.
	24/06/20 Meeting to close out actions	<p>An IBA has now been completed on the original site layout and the revised site layout and has been delivered to the MCA and TH.</p> <p>The inshore route identified in the IBA is not a commercial route and therefore whilst it is identified as intolerable in the IBA this is not significant.</p>		<p>MCA welcomed the IBA and noted that it supplied evidence and support to the decision made with regard to redesign of the <8M UKC along the eastern boundary in response to issues raised by recreational stakeholders.</p> <p>NS requested an additional section be included in the IBA detailing the draught of</p>		IBA reissued including section on draught of vessels using the inshore route.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
				the vessels using the inshore route.		
	19/10/20 Response to Statements of Case	<p>The developer has already committed to Devices >8m below CD to be deployed along the eastern boundary and following further consultation redesigned this zone along the eastern edge of the development site to allow greater sea room for the users of the inshore route to thereby further reduce the risk to navigators. The NRA Addendum updates and extends the previous NRA completed by Marico Marine in 2019 and seeks to assess the layout changes introduced since completion of the 2019 NRA and to elaborate and provide further clarity around elements concerning navigational risk raised by navigational stakeholders since completion of the 2019 NRA assessment utilising newly available data, including the HR Wallingford Coastal Process report. The conclusion from the independent NRA are that “The Project is therefore assessed to be acceptable in terms of navigational risk assuming compliance with embedded and implementation of suggested additional mitigation measures where appropriate for hazards scoring as ALARP.”</p> <p>Further widening of the inshore route has been considered but it is not possible to allow a minimum distance of >1mile as the tidal currents required are primarily located closer to the shore. Although the minimum width of the inshore route is 1km this is only at two points along the whole eastern extent of the development and the majority of the route is much wider.</p> <p>Traffic data was acquired in accordance with and over and above the requirements of MGN 543 and this has been confirmed by the MCA as being appropriate and acceptable. This data, confirmed by the RYA Coastal Atlas shows the vast majority of recreational users presently transit the inshore passage within a corridor of less than 1,000m from the shore.</p>		<p>We agree the Interactive Boundary Assessment was carried out and meets the guidance in the MGN but the 1000m width of the blue zone is has not yet been agreed as tolerable with all stakeholders. Whilst we are content it is acceptable for RNLI vessels the RYA are concerned for sailing vessels and we would like agreement before we can say we are satisfied.</p>	Not agreed (under discussion)	We continue to liaise with the RYA.

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Displacement	19/10/20 Response to Statements of Case	<p>The NRA Addendum takes in to consideration data from the RYA Coastal Atlas, and assesses the impact to recreational vessels across the entirety of the MDZ. A further assessment of the western route has been undertaken as detailed above. The developer has made significant modifications to the eastern boundary of the development site including a zone of >8m UKC and subsequently amended the western edge of that zone and widened it to increase sea room for users of the inshore channel. The revised layout and suggested mitigation measures are designed to ensure continued safe access and passage through the inshore route and to avoid displacement of vessels further west. Further to this the developer has further refined the project design to limit deployment of devices with >20m UKC along the southern, western and northern boundary of the site which should result in minimum disruption to vessels using the western offshore route, to minimise disruption to the western offshore route.</p> <p>The NRA, informed by traffic analysis, assumes the worst-case displacement of traffic into the areas around the MDZ (Table 11-4, NRA Addendum).</p>		In reference to paragraph 8.2.7 of the RYA's Statement of Case which refers to displacement of traffic, MCA agrees that the NRAA could provide further information on the likely displacement routes. The MGN Checklist states that displacement is address in Section 7 of the NRAA, however it does not appear this has been addressed for recreation vessels.	Not agreed (under discussion)	Clarification information is in the process of being provided.
HR Wallingford Coastal Process Modelling Report (CPMR)	19/10/20 Response to Statements of Case	<p>The HR Wallingford tidal flow model is designed to provide the required information on changes in tidal flows that may affect navigation, as well as input to sediment transport modelling. A tidal atlas is now available together with existing and post development current patterns (for an extreme development case) so hydrodynamic changes can be examined in detail. While models are indeed simplifications of the real world, they do provide a very good representation of it, as shown by the validation exercises carried out as part of the study.</p> <p>In addition to the CPMR we have provided a further HR Wallingford Report "Further information on predicted changes in currents". This presents predicted changes in current</p>		MCA is content with both HR Wallingford reports and notes the NRA Addendum concludes that this will not have a significant effect on navigation, however concerns have been raised by kayaking representatives and RYA with regards to the effects of the overfalls, eddies and races on sea users and whether these activities	Not agreed (under discussion)	Clarification information is in the process of being provided.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<p>speeds and directions at hourly intervals throughout the tidal cycle as requested by the kayakers.</p> <p>The report shows that in general there is a reduction in current speeds due to the Morlais Development although in some cases the tidal stream is also partially diverted around the development causing a shift in location of the tidal stream between the development area and the coast at some states of tide. The pattern of the tidal eddy around North Stack is also changed for a particular state of tide.</p> <p>It should be noted that the recently completed Navigation Risk Assessment (NRA) Addendum has already considered currents and tidal flows as presented in the original HR report in addition to published information for the region including tidal diamonds and the tidal stream atlas. Marico, who completed the independent NRA, have since reviewed this supplementary report and advised that the additional information does not change the risk scoring as the impacts of the MDZ to the tidal stream are considered to be of low significance in terms of additional impact to navigation risk over the existing sea conditions.</p>		can continue safely within acceptable risk tolerability.		
		Mitigation and Monitoring				
Embedded Mitigation Measures	04/02/20 Meeting to discuss representation letters	<ul style="list-style-type: none"> Compliance with applicable guidance and regulations (including COLREGs and SOLAS); Ensuring devices marked as per International Association of Lighthouse Authorities (IALA) Guidance and Aids to Navigation and in accordance with Trinity House; Promulgation of information to local stakeholders via Notice to Mariners and other appropriate Maritime Safety Information dissemination methods; Selection of appropriate construction/decommissioning and maintenance vessels; Global Positioning System off station alarm / Supervisory Control and Data Acquisition (SCADA) monitoring system; 	<p>Clause 17.</p> <p>Clause 19.</p> <p>Clause 21.</p> <p>Clause 43</p> <p>Part 4 Documents to be submitted and approved by the Welsh Ministers</p>	<p>MCA highlighted that enhanced cable protection for areas of unburied cable and construction of vessels to be marked in accordance with COLREG should be embedded mitigation measures.</p> <p>The MCA advised that the primary risk for unburied cables in the site is snagging.</p>	Agreed	Review and re issue Embedded Mitigation Measures

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<ul style="list-style-type: none"> Incidents and near misses are reported and investigated by developer and operators; Surveyed and charted as required by United Kingdom Hydrographic Office; Formulation and implementation of an Emergency Response Co-operation Plan (ERCoP); Passage plans for construction/decommissioning and maintenance craft; Consideration of weather and sea state during construction/decommissioning planning; Enhanced cable burial protection where burial is not possible and where there is a requirement to do so. 				
	24/06/20 Meeting to close out actions	<p>Menter Môn note the MCA/TH position and will review and re issue Embedded Mitigation Measures</p> <p>Revised Embedded Mitigation Measures as detailed in Section 15.6.2.3 of the Amended ES and Section 11.4 of the NRA Addendum.</p> <ul style="list-style-type: none"> Compliance with applicable guidance and regulations (including COLREGs and SOLAS); Promulgation of information to local stakeholders (including via Notice to Mariners (NTM) and other appropriate Maritime Safety Information (MSI) dissemination methods. Selection of appropriate construction/decommissioning and maintenance vessels; Incidents and near misses are reported and investigated by developer and operators; Ensuring devices marked as per International Association of Lighthouse Authorities (IALA) Guidance and Aids to Navigation and in accordance with Trinity House; 		<p>MCA confirmed that they had received the list of embedded mitigation measures and additional mitigation measures.</p> <p>MCA would expect to see a site wide ERCOP which would then be added to with device and location specific ERCOPs as the site is developed.</p> <p>MCA advised that “Exclusion of Fishing” be removed as an Additional Mitigation Measure. This is likely to be a result of the development rather than an implemented mitigation measure.</p> <p>Clarification requested on the Embedded mitigation</p>		Embedded Mitigation Measures reissued.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<ul style="list-style-type: none"> Global Positioning System off station alarm / Supervisory Control and Data Acquisition (SCADA) monitoring system; Surveyed and charted as required by United Kingdom Hydrographic Office; Formulation and implementation of an Emergency Response Co-operation Plan (ERCoP); Passage plans for construction/decommissioning and maintenance craft; and Consideration of weather and sea state during construction/decommissioning planning; Devices >8m minimum UKC below CD to be deployed within the blue zone; Devices >20m minimum UKC below CD deployed within the purple zone. 		measure “Enhanced cable burial protection where burial is not possible and where there is a requirement to do so”.		
	19/10/20 Response to Statements of Case	The developer is happy to include this as a condition in the ML Conditions		In addition, any device moored to the seabed must have mooring arrangements that meet the guidance document published by MCA and HSE “Regulatory expectations on moorings for floating wind and marine devices” which includes Third Party Verification by an independent competent person or body to ensure the mooring arrangements are suitable.	Agreed	


Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
Additional Mitigation Measures	04/02/20 Meeting to discuss representation letters	<p>Proposed Additional mitigation measures discussed at this meeting were:</p> <ul style="list-style-type: none"> Continuous Monitoring by Marine Co-ordination Centre; Restrict Navigation through the MDZ; Only deploy devices that provide at least 20 m UKC as shown within Figure 4-1 (Volume II); Redesign the Northern Boundary (by the deployment of devices with at least 20m UKC as detailed above); Use of guard vessel(s) where appropriate during construction (and repowering), maintenance and decommissioning phases. Provision of a guard vessel for the operational phase will be kept under consideration and will be based on the outputs of the device-specific NRA's expected to be required to be undertaken as part of any eventual ML condition. Implementation of Safety Zones; Temporary navigation aids as required by Trinity House; Undertake device specific NRA's prior to deployments, i.e. once exact locations and scale/type of device deployment is known; Provisions made for continued use of ferry poor weather routing or alternative routes to be established; Exclusion of fishing within the MDZ; phased approach Only deploy devices that allow at least 8 m UKC along eastern boundary; Ensure appropriate alignment and spacing of devices; Ensure regular programme of device condition surveys; Establish no anchoring areas; 	<p>Clause 17. Clause 19. Clause 21. Clause 43 Part 4 Documents to be submitted and approved by the Welsh Ministers</p>	<p>MCA enquired on the reason for the restriction to navigation and exclusion of fishing as they noted that other projects have maintained vessel navigation.</p> <p>MCA highlighted that under present legislation there is no facility to exclude navigation from an area. The area can be highlighted as an Area To Be Avoided (ATBA) but the right of navigation remains. Approval for an ATBA will need to be provided through the MCA and UK Safety of Navigation Committee (UKSON).</p>	Agreed	


Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<p>With regard queries about restrictions to navigation and fishing Morlais advised that this was due to the number of devices in the area and the associated complexities of the arrays. It was also acknowledged that this is a novel project and that the spacing between the devices are much smaller than the spacing between wind turbines.</p> <p>In addition, the exact compositions of the deployment phases are not yet known as assessments would be carried out prior to each deployment.</p> <p>It was clarified that the restriction would be on all navigation. However, navigation may be possible between groups of devices and arrays will be designed with due consideration for Search and Rescue (SAR) operations.</p> <p>With regards to fishing, the present position is that fishing will be excluded but given the phased nature of the project this will also be phased.</p>				
	24/06/20 Meeting to close out actions	<p>Menter Môn note the MCA position and will review and re issue Additional Mitigation Measures.</p> <p>Revised Additional Mitigation Measures as detailed in Section 15.7.1 of the Amended ES.</p> <ul style="list-style-type: none"> Continuous Monitoring by Marine Co-ordination Centre Restrict Navigation through the Gold and Green MDZ Zones. MDZ designation as No Fishing Zone Appropriate alignment and spacing of devices Check device surveys Guard vessel to monitor passing traffic during construction and installation 		<p>With regard to Restricting Navigation through the MDZ MCA advised again that there is a process to have an area marked as an “Area to be Avoided”. If the development is properly charted and marked then it should not be necessary to go down this potentially protracted process and so this could be removed.</p> <p>With regard to “Establishing no anchoring</p>	Agreed	Additional Mitigation Measures reissued

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<ul style="list-style-type: none"> Establish no anchoring areas Enhanced cable protection Implementation of Safety Zones Temporary navigation aids as required by Trinity House Undertake Device / Array Specific Risk Assessments to include NavAids and Marker Buoys. Provision of life saving equipment on fixed structures and floating devices. Minimise use of marker buoys in zones of minimum UKC. 		<p>zones” similarly there is a process to be followed to achieve this but if this relates to cables then it is already captured in good practice guidelines and so can be removed.</p> <p>MCA requested that the list of Embedded and Additional Mitigation Measures be issued as a formal document. This could be included in the Statement of common Ground (SOCG).</p>		
	19/10/20 Response to Statements of Case	<ul style="list-style-type: none"> Restrict Navigation through the Gold and Green MDZ Zones [through either an Area To Be Avoided or a Precautionary Area]. MDZ designation as a No Fishing Zone 		<p>These are IMO-adopted routing measures and will require formal application through UK Safety of Navigation Committee and agreement at IMO. This process can be lengthy and whilst MCA does not believe an ATBA is appropriate however we would be willing to discuss the appropriateness of a Precautionary Area.</p> <p>When test arrays are in place fishermen are unlikely to fish in the area and provided the necessary notifications are issued and the MDZ is</p>	Agreed	The developer will follow MCA’s guidance on these three items.

Issue	Date	Menter Môn position	TWAO Ref.	MCA position	Status	Actions (if required)
		<ul style="list-style-type: none"> Establish no anchoring areas [around nearshore cable route] 		<p>charted in nautical charts and publications fishermen will be aware of the hazards.</p> <p>Export cables do not normally attract no anchoring areas - the cable will be charted by the UKHO and mariners are already advised not to anchor within 0.25nm of a cable.</p>		
	30/10/20	<ul style="list-style-type: none"> Provision of life saving equipment on fixed structures and floating devices. 		<p>Following an internal review, MCA agrees with kayaking representatives that features on devices such as grab handles and chains are hazardous and are not necessary.</p>	Agreed	

The undersigned agree to the provisions within this SOCG

Signed	
Printed Name	Gerallt Llewelyn Jones
Position	Senior Responsible Officer
On behalf of	Menter Môn Morlais
Date	13/11/2020

Signed	
Printed Name	Nick Salter
Position	Offshore Renewables Lead
On behalf of	Maritime and Coastguard Agency
Date	16/11/2020