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Morlais Project

Document MOR/RHDHV/DOC/0155: Statement of Common Ground –Trinity House – Shipping and Navigation

Applicant: Menter Môn Morlais Limited

Document Reference: PB5034-ES-SoCG-Sh

Document MOR/RHDHV/DOC/0155: Statement of Common Ground – TH – 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
18/08/20	1.1	Second draft splitting MCA and TH comments	For approval
09/09/20	1.2	Incorporating TH Comments	For approval
27/10/20	1.3	Incorporating TH Comments	For approval
02/11/20	1.4	Incorporating TH Comments	For approval
02/11/20	1.5	All items agreed and approved for Signature	For signature

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1. THE PROJECT 1
1.2. THE DEVELOPER 1
1.3. THE NEED FOR THE PROJECT 1
1.4. ROLE OF POLICY AND LEGISLATION IN THE DECISION MAKING PROCESS 2
1.5. PURPOSE OF THIS DOCUMENT 3
2. PROJECT DESCRIPTION 4
2.1. OVERVIEW 4
2.2. OFFSHORE WORKS 4
3. RECORD OF CONSULTATION 8

TABLE OF TABLES

Table 3-1 Shipping and Navigation Technical Meeting Details 8
Table 3-2 Statement of Common Ground – Shipping and Navigation – TH 9

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 socioeconomic 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.

1.5. PURPOSE OF THIS DOCUMENT

15. 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 Trinity House (TH) 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).

16. 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*.

17. 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).

18. 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 TH at the time of writing. The SoCG will continue to evolve in the lead up to and during the post application period.

19. A first draft of the SoCG for shipping and navigation was provided to TH by Menter Môn on 10th August 2020 for review and comment. TH requested a stand alone document just covering the items as discussed with TH and so this second draft was produced and delivered to TH by Menter Môn on 10th August 2020.

20. The document will be updated as more information becomes available and as a result of ongoing discussions between Menter Môn and TH. Updates are recorded in the "Revision History" table provided on the front page of this document.

21. This document should be read in conjunction with the relevant technical chapters in the ES; **Chapter 15, Shipping and Navigation** (**Volume I** of the ES) and the **Navigation Risk Assessment** (version 3, document reference 18UK1479-RN-MM-NRA-20_03).

2. PROJECT DESCRIPTION

2.1. OVERVIEW

23. 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.

24. 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).

25. 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.

26. The key components of the offshore works associated with the Project 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

27. 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.

28. 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.

29. 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.

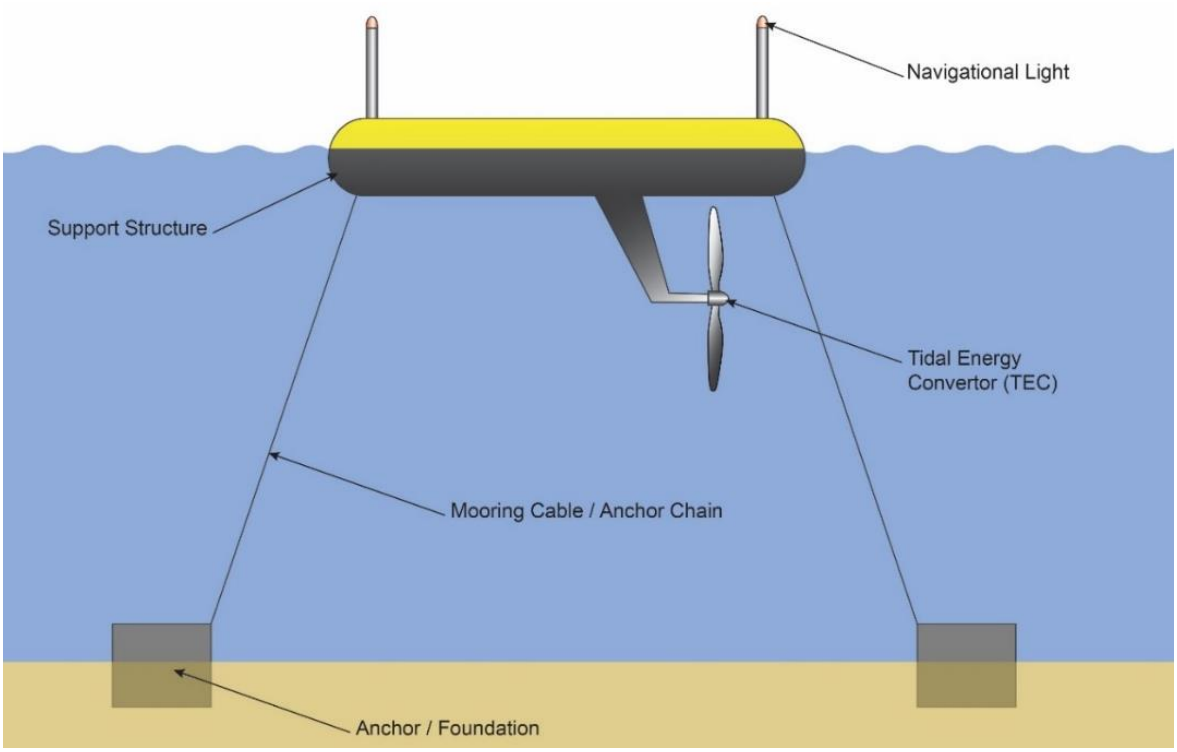

Plate 2-1 Generic Tidal Device Exemplar 1 – Floating or Surface Emergent Tidal Device, Comprised of TEC, Support Structure, Mooring Cables / Anchor Chains and Anchors / Foundations

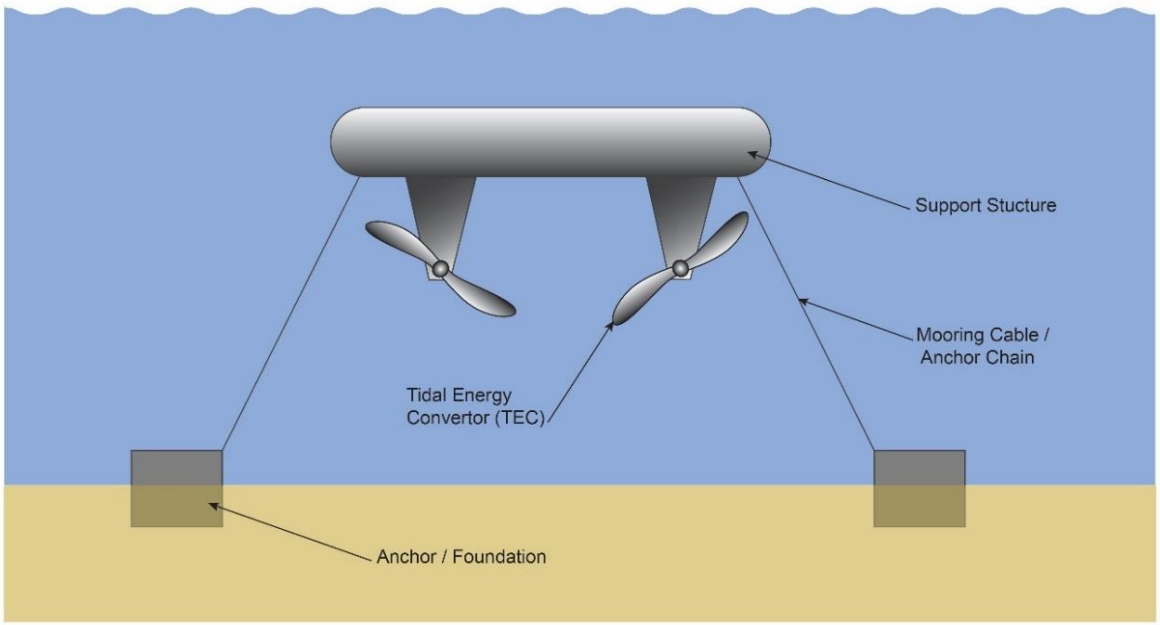

Plate 2-2 Generic Tidal Device Exemplar 2 – Mid Water Column Tidal Device, Comprised of TEC, Support Structure, Mooring Cables / Anchor Chain, and Anchor / Foundation. Note this device is shown facing into direction of current flow

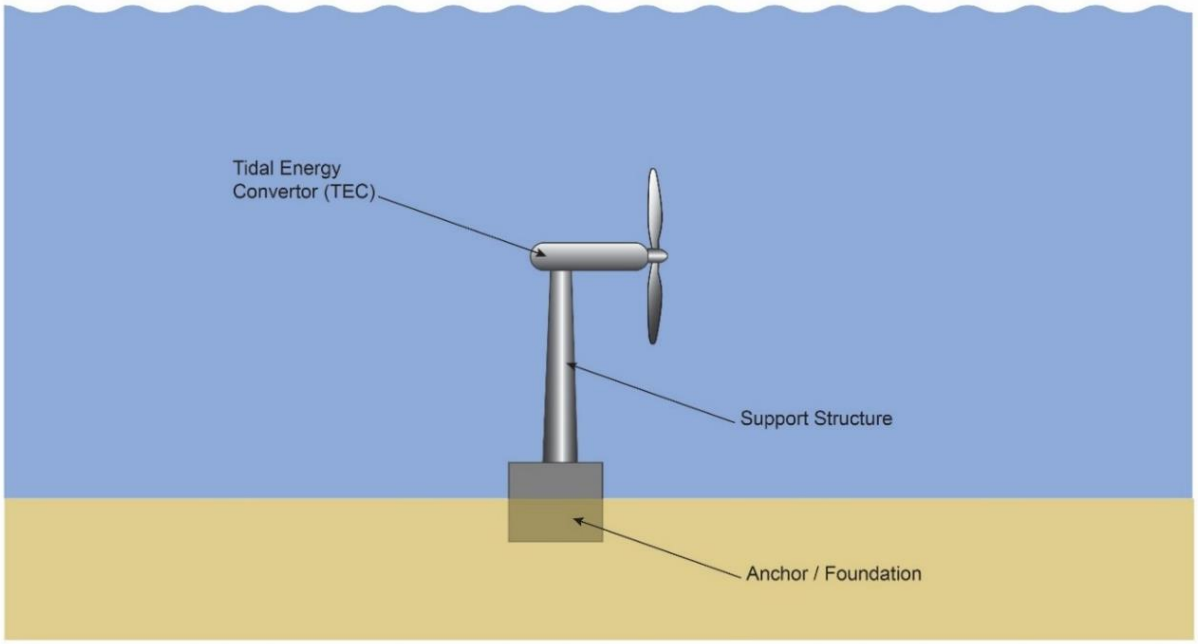

Plate 2-3 Generic Tidal Device Exemplar 3 – Seabed Mounted Sub Surface Tidal Device with TEC Supporting Structure and Foundation

30. **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.

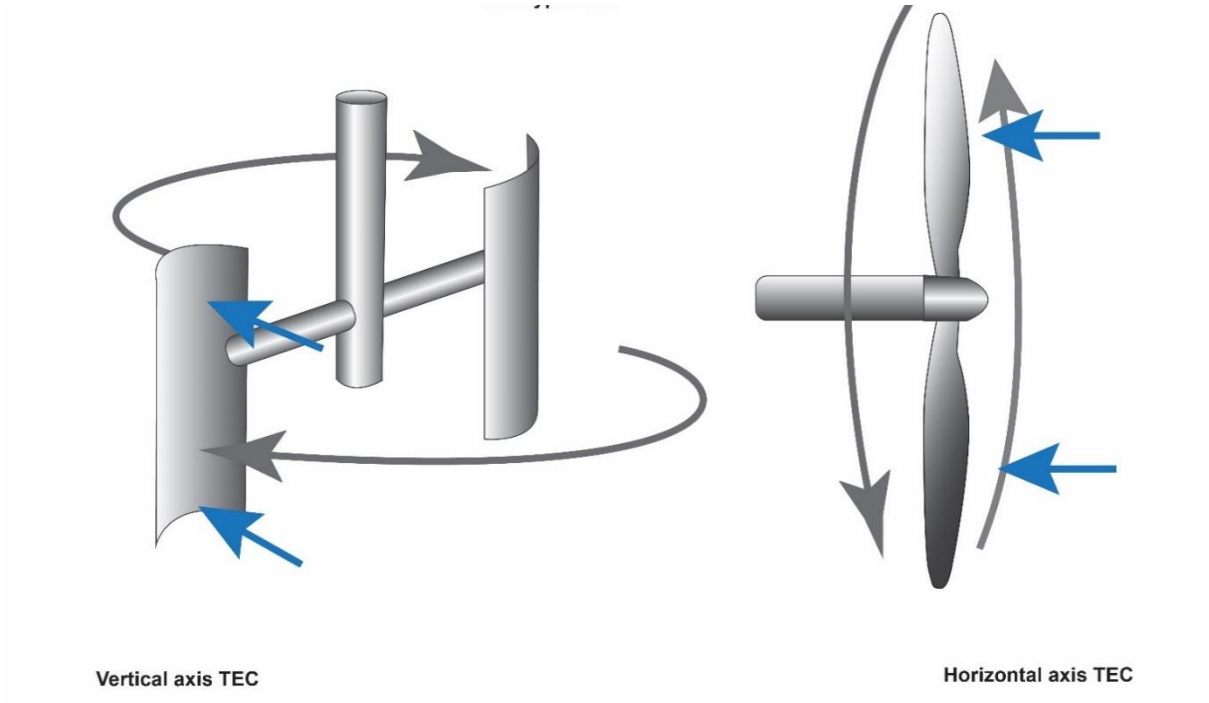

Plate 2-4 Illustration of Horizontal and Vertical Axis TEC Types

2.2.2. Export Cables

31. 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.

32. 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

33. The preparation of this SoCG has been informed by a programme of discussions between consultants acting on behalf of Menter Môn and TH. 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 TH prior to meeting
October 2018	EIA Scoping Report Responses	EIA Scoping Report
31st October 2018	NRA Phase 1 Consultation with TH	
29th January 2019	Preliminary Hazard Analysis (PHA)	
4th February 2020	▪ **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**	
24th June 2020	▪ Project Update ▪ Review of Action Tracker ▪ Any Additional Comments ▪ Statement of Common Ground ▪ AOB	Updated List of Embedded and Additional Mitigation Measures Interactive Boundary Assessment Revised Risk Matrix

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

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
		Environmental Impact Assessment (EIA) – Baseline Environment				
1. Study Area	31/10/18 NRA Phase 1 Consultation with MCA	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. 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).	N/A	TH is content with the study area used for the NRA and NRA Addendum assessments	Agreed	
	18th Sept. 2020	The NRA Addendum updates and extends the previous NRA and seeks to assess the layout refinements 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 primary changes to the Morlais Development Zone (MDZ) layout since the previous assessment include the adoption of the following recommendations from the 2019 NRA: • The introduction of a zone of 8m minimum UKC to the east of the MDZ adjacent to the inshore route; • The introduction of a zone of minimum 20m UKC along the northern, west and southern MDZ boundaries.	N/A To be addressed through ML conditions.	Approach Agreed.	Ongoing (see actions)	As regards the areas of 8m and 20m UKC, the Order identifies areas in which the deployment of devices with less than either an 8m or 20m UKC (respectively) may only be deployed following the approval of a device deployment protocol by the Welsh Ministers, following consultation with Trinity House. Controls on the deployment of devices with less than 8m or 20m UKC will also be secured through conditions on the ML.

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
						Applicant to provide further draft of ML conditions to reflect.
Lighting and marking	31/10/18 NRA Phase 1 Consultation with TH	All marking and lighting will be in accordance with International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA AISM) 0-139 the Marking of Man-Made Offshore Structures and will be determined through consultation with Trinity House.	Articles 20 and 21. See also draft marine condition 21 (and condition 28 in relation to the colouring of structures)).	Marking and lighting will be fundamental to the project. TH will determine the detailed requirements for marking the demonstration site and individual devices once the design of the site and deployment of the devices is finalised.	Agreed	Morlais to provide initial device layout and designs as these become available post consent.
	29/01/19 PHA Meeting	All marking and lighting will be in accordance with International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA AISM) 0-139 the Marking of Man-Made Offshore Structures and will be determined through consultation with Trinity House.		TH pointed out that until a device specific layout is available, Trinity House will not be able to comment on how the site/ devices should be marked. If this is not received prior to the license application, marking plans will be past comment. It is Trinity House's preference that devices and buoys not be marked with AIS as the over proliferation of AIS can cause confusion on ships' radar and ECDIS displays.	Agreed	Morlais to provide initial device layout and designs as these become available.
	04/02/20 Meeting to discuss representation letters	Morlais shared that there have been concerns raised over the colouring and lighting of the devices due to the site's presence in an Area of Outstanding Natural Beauty (AONB) and therefore the project is looking for a solution that is less impactful than the worst case of having all devices entirely yellow.		Under draft marine licence condition 28, all structures must be coloured as directed by TH. TH stated that it could consider alternative solutions upon	Agreed	Subject to post consent details being finalised.

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
		Morlais stated that they are keen to work with the MCA & Trinity House to look at sympathetic lighting and marking of devices whilst being cognisant of the IALA recommendations and the need to ensure safety of navigation. Morlais provided TH with some example images of how devices could be marked.		receiving supplementary materials from Morlais. TH advised that lighting of offshore marks would need a visibility range of 5 miles to seaward but inshore marks could only require visibility ranges of 2 miles or less to landward. Individual devices would need to be marked with separate ID and an ID Board light which is "hooded" but means the ID board is visible for up to 150 metres. TH advised that the project could take a phased approach to marking the site as it is developed. TH inquired as to who would be responsible for the management of lighting and marking across the whole site; Menter Môn or the developers. It was agreed that as Menter Môn will be the named developer in the TWAO and Marine Licence that they will have ultimate responsibility for ensuring that the site is marked correctly.		
	24/06/20	N/A		TH advised that with regard to off station alarms note be	Agreed	TH position noted and the project will where

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
	Meeting to close out actions			taken of its request to reduce where possible the proliferation of AIS systems and that other alternative systems are available.		possible consider alternative systems to AIS in consultation with TH. This would ultimately need to be agreed with Welsh Ministers (in consultation with TH) through the scheme securing safety of navigation under article 21 of the draft Order, as well as the Aids to Navigation Management Plan under draft marine licence condition 20.
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.	N/A To be addressed through ML conditions.	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 and TH.	Ongoing (see actions)	The Order identifies areas in which the deployment of devices with less than either an 8m or 20m UKC (respectively) may only be deployed following the approval of a device deployment protocol by the Welsh Ministers, following consultation with Trinity House. Controls on the deployment of devices with less than 8m or 20m UKC will also be

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
						secured through conditions on the ML. Applicant to provide further draft of ML conditions to reflect.
		Navigation Risk Assessment				
Scope and Methodology	10/18 Scoping Report	The NRA has been undertaken in accordance with MGN543. Array specific NRAs will be undertaken for initial deployments as the project progresses .	Article 3 and Schedule 1, Part 4 Documents to be submitted and approved by the Welsh Ministers (following consultation with TH). See also draft marine licence condition 27.	TH advised that the navigation risk assessment should be undertaken in accordance with MGN 543 (which supersedes MGN 371). The applicant should also note that separate risk assessments are likely to be required for each deployment of TEC/arrays, in due course, as this project progresses.	Agreed	Array specific NRAs will be undertaken before initial deployment and subject to approval of Welsh Ministers following consultation with TH.
	17/10/18 NRA Phase 1 Consultation with MCA	The NRA has been completed in accordance with MGN 543 as specified. The scope and objectives of the NRA were as follows: 1. Describe the project; 2. Provide a description of the existing baseline environment and activities in the project area, including but not limited to: a. Local ports and harbours; b. Tidal conditions; c. Other users of the area such as aggregates, oil and gas, anchorages, military and renewable energy installations; d. Existing vessel traffic patterns, including frequency and types; and		TH advised that the NRA should be undertaken in accordance with MGN 543 (which supersedes MGN 371). The applicant should also note that separate risk assessments are likely to be required for each deployment of TEC/arrays, in due course, as this project progresses.	Agreed	

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
		e. Existing risk profile for navigational incidents. 3. Identify and assess impacts of the development to shipping and navigation, including: a. Traffic routeing; b. Collision risk; c. Cable risk; d. Communications, Radar and Positioning Systems; e. Search and Rescue; and f. Cumulative and In-Combination Effects. 4. Undertake an NRA that identifies the hazards during the construction and operation phases of the development. These hazards are then assessed, and risk controls identified to reduce the risk to an acceptable threshold; and 5. Make recommendations as to the safety of the development and what measures should be implemented to improve it.				
Under Keel Clearance	31/10/18 NRA Phase 1 Consultation with TH	A >20m UKC is proposed in the north of the development zone.	N/A To be addressed through ML conditions	TH commented that at Minesto, a 12m UKC was proposed which is unacceptable. A 20m minimum UKC has been agreed at Minesto.	Ongoing (see actions)	The Order identifies areas in which the deployment of devices with less than either an 8m or 20m UKC (respectively) may only be deployed following the approval of a device deployment protocol by the Welsh Ministers, following consultation with Trinity House. Controls on the deployment of devices with less than 8m or 20m UKC will also be

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
					Ongoing (see actions)	secured through conditions on the ML. Applicant to provide further draft of ML conditions to reflect.
	04/02/20 Meeting to discuss representation letters	Consultation and vessel draught analysis has established two critical minimum UKC values required in order to maintain continued and safe navigation as follows: Vessels with a draft of less than 3m minimum UKC of 8m Vessels with a draft of >3m minimum UKC of 20m	N/A To be secured through ML conditions.	The NRA details the methodology for determining UKC but it is unclear why an UKC of 20m was selected for Commercial and Passenger Vessels.		Morlais provided clarification on the calculation of UKC. The Order identifies areas in which the deployment of devices with less than either an 8m or 20m UKC (respectively) may only be deployed following the approval of a device deployment protocol by the Welsh Ministers, following consultation with Trinity House. Controls on the deployment of devices with less than 8m or 20m UKC will also be secured through conditions on the ML Applicant to provide further draft of ML conditions to reflect..

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
	24/06/20 Meeting to close out actions	Morlais provided clarification: With reference to the calculation of Under Keel Clearance UKC for Commercial and Passenger Vessels. The MCA *'Guidance to Developers in Assessing Minimum Water Depth over Tidal Devices – Under Keel Clearance Policy Paper'* 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: Irish Ferries: *'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'.* Stena: *'Normal draught is 6m. In bad weather pitch is 6m greater = 12m at mean low water springs. Passage planning outside of the 15m*	N/A To be secured through ML conditions	MCA and TH 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.	Ongoing (see actions)	Details of the calculation of the UKC to be included in NRA Addendum. The Order identifies areas in which the deployment of devices with less than either an 8m or 20m UKC (respectively) may only be deployed following the approval of a device deployment protocol by the Welsh Ministers, following consultation with Trinity House. Controls on the deployment of devices with less than 8m or 20m UKC will also be secured through conditions on the ML. Applicant to provide revised draft ML conditions to reflect.

<table>
<tr><th>Issue</th><th>Date</th><th>Menter Môn position</th><th>TWAO Ref</th><th>TH position</th><th>Status</th><th>Actions (if required)</th></tr>
<tr><td></td><td></td><td>contour. A mid-water device at 15m therefore, wouldn't cause issues'.

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:

Dynamic factor : 2 x draught to account for vessel motions in accordance with PIANC principles.

Safety Margin : 30% as stipulated within MCA UKC Policy Paper.

<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></td><td></td><td></td><td></td><td></td></tr>
<tr><td>NRA Methodology</td><td>31/10/18NRA Phase 1 Consultation with TH</td><td>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.</td><td>N/A</td><td>TH agreed with the proposed risk assessment Methodology.</td><td>Agreed</td><td></td></tr>
<tr><td></td><td></td><td>Mitigation and Monitoring</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Embedded Mitigation Measures</td><td>04/02/20 Meeting to discuss</td><td>▪ 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</td><td>Articles 20 and 21 (see also draft marine licence conditions 2, 9,</td><td>MCA highlighted that enhanced cable protection for areas of unburied cable and construction of vessels to be marked in accordance</td><td>Ongoing (see actions)</td><td>Review and re issue Embedded Mitigation Measures.
Enhanced cable burial protection to be added</td></tr>
</table>

Issue	Date	Menter Môn position	TWAO Ref	TH position	Status	Actions (if required)
	representation letters	Navigation and in accordance with Trinity House requirements; ▪ 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; ▪ 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.	12 – 14, 16, 18, 20 – 26, 29, 32 and 44)	with COLREG should be embedded mitigation measures. The MCA advised that the primary risk for unburied cables in the site is snagging.		to list of embedded mitigation measures in NRA. The detailed embedded mitigation measures set out in section 11-4 (Table 11-5) of the NRA Addendum would be secured through proposed condition to the ML. Applicant to provide revised draft ML conditions to reflect.
	24/06/20 Meeting to close out actions	Menter Mon note the MCA/TH position and will review and re issue Embedded Mitigation Measures. Revised Embedded Mitigation Measures as detailed in Section 15.6.2.3 of the Amended ES and Section 11.4 of the NRA Addendum. • 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.	See above.	MCA and TH confirmed that they had received the list of embedded mitigation measures and additional mitigation measures. 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.	Ongoing (see actions)	Review and re issue Embedded Mitigation Measures. Enhanced cable burial protection to be added to list of embedded mitigation measures in NRA. The detailed embedded mitigation

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		• 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 requirements; • 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. • Enhanced cable burial protection where burial is not possible and where there is a requirement to do so.		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. Clarification requested on the Embedded mitigation measure "Enhanced cable burial protection where burial is not possible and where there is a requirement to do so".		measures set out in section 11-4 (Table 11-5) of the NRA Addendum would be secured through proposed ML conditions Applicant to provide revised draft ML conditions to reflect. The Order identifies areas in which the deployment of devices with less than either an 8m or 20m UKC (respectively) may only be deployed following the approval of a device deployment protocol by the Welsh Ministers, following consultation with Trinity House. Controls on the deployment of devices with less than 8m or 20m UKC will also be secured through conditions on the ML. Applicant to provide revised draft ML conditions to reflect.

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Additional Mitigation Measures	04/02/20 Meeting to discuss representation letters	Proposed Additional mitigation measures discussed at this meeting were: ▪ 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;	Article 17. Article 19. Article 21. Article 43 Article 3 and Schedule 1, Part 4 Documents to be submitted and approved by the Welsh Ministers See also draft marine licence conditions 1, 21, 25, 27, 30.	TH and MCA enquired on the reason for the restriction to navigation and exclusion of fishing as they noted that other projects have maintained vessel navigation. MCA and TH 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). TH understands that article 43 will now be amended to and that any safety zones will be applied for separately by the Applicant pursuant to the procedure set out in the Energy Act 2004. The suitability of any additional mitigation measures in any specific case cannot be agreed by TH at this stage and would need to be approved at	Ongoing (see actions)	Save for ID 2, 3, 7 (for which see article 43 of draft Order), suggested additional mitigation measures set out in Table 13-1 of the NRA Addendum to be secured by ML conditions. Applicant to provide revised draft ML conditions to reflect.

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		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. In addition, the exact compositions of the deployment phases are not yet known as assessments would be carried out prior to each deployment. 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. 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.		detailed design stage depending on the specific layout of devices sought by the Applicant.		
	24/06/20 Meeting to close out actions	Menter Mon note the MCA/TH position and will review and re issue Additional Mitigation Measures. Revised Additional Mitigation Measures as detailed in Section 15.7.1 of the Amended ES. ▪ 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	See directly above.	With regard to Restricting Navigation through the MDZ NS 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.	Ongoing (see actions)	See immediately above.

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		▪ Guard vessel to monitor passing traffic during construction and installation ▪ 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.		With regard to "Establishing no anchoring 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. MCA and TH 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). TH understands that article 43 will now be amended to and that any safety zones will be applied for separately by the Applicant pursuant to the procedure set out in the Energy Act 2004. The suitability of any additional mitigation measures in any specific case cannot be agreed by TH at this stage and would need to be approved at detailed design stage depending on the specific layout of devices sought by the Applicant.		

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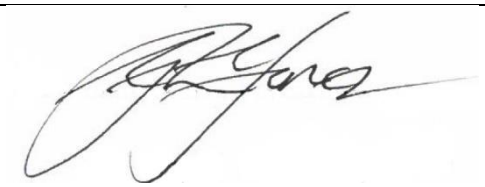
Draft TWAO	18/09/20 Statement of Case	Menter Môn are presently working with TH to address their comments with regard to the draft TWAO and expect to reach a mutually agreeable position shortly.	N/A	TH raised comments in relation to the draft Order (PINS library references SOC012 – Trinity House and SOC-RSP002 – Trinity House). A number of these are agreed and will be included in the next iteration of the draft Order.	Agreed	Revised draft TWAO incorporating amendments agreed with TH to be submitted to the TWAO process by the Applicant.
Draft Marine Licence Conditions	16/10/20	Menter Môn have provided TH with a draft set of Marine Licence conditions and will continue to work with TH to agree a final set of conditions.	N/A	TH have provided a revised version of the draft proposed marine licence conditions, together with comments. A copy of these will also be filed with NRW.	Ongoing	Applicant to provide comments on TH's mark-up ML conditions and to provide revised draft incorporating all embedded and additional mitigation measures as set out in the NRA addendum (Tables 11-5 and 13-1).

The undersigned agree to the provisions within this SOCG

Signed	
Printed Name	Geraint Llewelyn Jones
Position	Senior Responsible Officer
On behalf of	Menter Môn Morlais
Date	02/11/2020

Signed	
Printed Name	Captain Trevor Harris
Position	Navigation Manager
On behalf of	Trinity House
Date	2 November 2020