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Natural Resources Wales

Ein cyf/Our ref: SC1712v1

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27 November 2018

Dear Ms Smith,

SCOPING OPINION UNDER THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007 (as amended)

ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2017

SECTION 95 ENERGY ACT 2004 (AS AMENDED)

SCOPING OPINION – ENLLI TIDAL ENERGY SCHEME, BARDSLEY ISLAND

I am writing further to our meeting on 4 October 2018 in which NRW PS agreed to review scoping opinion SC1712 (dated 18 April 2018) in light of the comments that you raised. This scoping opinion SC1712v1 is based on the scoping report, dated 3 November 2017, made in accordance with The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("The Regulations").

The purpose of the Environmental Impact Assessment (EIA) scoping procedure is to determine what information should be provided in the Environmental Statement (ES).

In reaching our scoping opinion we have had regard to the information provided in the "Enlli Tidal Energy EIA Scoping Report", dated 3 November 2017, and considered the requirements of Schedule 3 of the regulations. In January 2018 we consulted with the bodies that we consider to have an interest in the project, by reason of their responsibilities, or local or regional competences, as required by the Marine Works Regulations, and had regard to their comments. The responses that were received to the January 2018 consultation for SC1712 have been utilised in this scoping opinion and further clarity has been sought from relevant consultees as necessary.

As you are aware, the Natural Resources Wales Permitting Service (NRW PS) within Natural Resources Wales (NRW) consulted organisations on behalf of the Marine Management Organisation (MMO) who also received a scoping opinion request in relation

to a consent required under section 36 of the Electricity Act 1989 (as amended), which the MMO is currently responsible for administering within Welsh inshore waters as transferred under the section 12 of the Marine and Coastal Access Act 2009 ("the 2009 Act"). The MMO are responsible for consenting functions under section 36(1), (5) and (7) of the Electricity Act 1989 (as amended), for the construction or extension of generating stations.

As set out in SC1712 it is our opinion that the works fall within the categories of project listed within Schedule A2, paragraph 20, "Installations for hydroelectric energy production" of the The Marine Works (Environmental Impact Assessment Regulations 2007 (as amended), and the project has the potential to have a significant effect on the environment and therefore a statutory EIA is required.

Scoping Opinion

This letter sets out the additional information that we consider necessary to be included and/or assessed in the ES for this Project.

Please note our scoping opinion is based on the information available to us at this time. The information provided is not a definitive list of the ES / EIA requirements and further information may be required following an application for this project, to ensure a full assessment is carried out.

This scoping opinion (SC1712v1) supersedes the Scoping Opinion provided by under reference number SC1712 in its entirety. The screening opinion given in SC1712 is still valid and has been reiterated above.

This Scoping Opinion will be provided to all those bodies that were consulted and will be publicised on our website and on our Public Register.

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2017

SECTION 95 ENERGY ACT 2004 (AS AMENDED)

Scoping Opinion SC1712v1

Summary of the proposal

The Enlli Tidal Energy project will have a capacity up to 2MW from up to 20 turbines, rated at 100 KW each. The turbines are horizontal axes turbines, with a gravity based foundation. Each turbine will be connected to an offshore electrical hub that will convert the energy to an exportable format. An offshore subsea cable will transport the energy to the landfall location.

The Project includes the following components:

- Tidal energy turbines.
- Offshore electrical infrastructure. There will be a need for offshore electrical hubs to link the turbines in the project and convert the energy into an exportable format.
- Offshore inter-array cables. Inter-array cables will connect individual turbines within the array as well as connecting the turbines to the offshore electrical hub.
- Landfall and onshore cable route. The landfall is expected to be at Aberdaron beach, one of the adjoining coves, or at Porth Meudwy. The offshore cable will be brought a short distance onshore and will then be connected to an onshore cable within a transition pit.
- Onshore substation. The location and design of the onshore substation has not been determined at this stage, although it is predicted that the substation will be near Aberdaron or Porth Meudwy. Only the onshore infrastructure will be visible, and the infrastructure will be landscaped to mitigate against adverse visual impacts.
- Grid Connection. As the substation location and grid connection have not been finalised, the link between the substation and grid connection has not been included within this scoping report. The grid connection point will be determined through detailed design by SPEN. This will be included within the EIA when a greater level of information is known.

The turbines blade length will be at least 7m and will not exceed 10m. Depending on the blade length, the total height of the entire structure will be 11m-15m from the seabed to the tip of the blade. The foundation will sit on three feet consisting of triangular steel plates. The footprint of the foundation will be 13.5 x 12.2m, though the direct impact on the bottom is limited to the three feet of the foundation. Each foot is 1m x 1m.

The substructures will be at most 14m x 20m. The direct seabed interface is limited to the 3 feet, each 1m x 1m. Because of the gravity base foundation, no seabed drilling or pile driving is required for the installation of the turbines and all items can be recovered from the seabed.

Location
The project is located within Bardsey Sound, between Ynys Enlli (Bardsey Island) and the mainland of the Llŷn Peninsula, Gwynedd, Wales. The Crown Estate Agreement for Lease (AfL) covers an area of 3.3 km².

Consultation Responses Received
In considering the scoping report, the NRW PS consulted with various consultation bodies in January 2017. The consultation bodies that responded are listed below:

- Natural Resources Wales Technical Experts (NRWTE)
- Maritime and Coastguard Agency (MCA)
- Royal Yachting Association (RYA)
- Trinity House Lighthouse Service (THLS)
- Gwynedd Local Planning Authority, Biodiversity Officer
- Marine Management Organisation (MMO)
- Health and Safety Executive (HSE)
- Cadw
- Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMW)
- Welsh Archaeological Trusts
- Department for Business Energy and Industrial Strategy (BEIS)
- Royal Society for the Protection of Birds (RSPB)
- Defence Infrastructure Organisation

Further clarification has been sought from NRW TE to inform scoping opinion SC1712v1.

0. General comments

0.1. Marine and coastal guidance produced by NRW that may provide useful information to help with your project is available on our website[1]. This includes Guidance Note GN013 Scoping an Environmental Impact Assessment for marine developments, and Guidance to inform marine mammal site characterisation requirements at wave and tidal energy sites in Wales.

0.2. The ES must demonstrate consideration of the points raised in this scoping opinion. It is recommended that a table is provided in the ES summarising the scoping opinion comments and how they are addressed in the ES.

0.3. The Environmental Statement must include all the information set out in Schedule 3 and regulation 12 of the Marine Works (Environmental Impact Assessment)

[1] https://naturalresources.wales/guidance-and-advice/business-sectors/marine/marine-and-coastal-guidance/?lang=en

(Amendment) Regulations 2017, which includes the following aspects that are not in the scoping report:

- a description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale).
- The impact of the project on climate and the vulnerability of the project to climate change
- Transboundary effects
- Vulnerability of the project to risks or major accidents or disasters

1. Executive Summary

1.1. A non-technical summary must be provided with the ES.

2. Introduction

2.1. Section 2.3 states that the report has been prepared under the Marine Works (Environmental Impact Assessment) (Amendment) Regulations 2017. The Environmental Statement should make reference to all the EIA regulations that are of relevance to the project, not just the Marine Works.

3. Approach to Scoping and the Evidence Base for EIA

3.1. The ES must include:

- A description of the likely significant effects of the project, whether direct, indirect, secondary, cumulative, transboundary, short-term, medium-term, long-term, permanent, temporary, positive and negative.
- The assessment must include assessment of impacts from: the construction and existence of the project and regulated activity, use of natural resources, emissions (pollutants, noise, light, vibration, heat, radiation), risk to human health, cultural heritage or the environment (including accidents and natural disasters), impacts of the project on climate, technologies and substances used.
- A description of the methods used to make the assessment of the significant effects and difficulties encountered in compiling the information, and uncertainties involved.
- A description of measures to avoid, prevent, reduce or offset identified significant adverse effects, and proposed monitoring arrangements.
- A description of the expected significant adverse effects of the project on the environment resulting from the vulnerability of the project to risks of major accidents or disasters

3.2. Where possible, other environmental assessments should be coordinated with the EIA process. However, it is important to note that HRA and WFD (and any other assessment) are separate processes to the EIA.

3.3. Section 3.2 provides statements about defining Likely Significant Effects but does not explain how this will be applied to determine significant and non-significant effects. The Environmental Statement must make the methodology for the assessment of significance clear, for example by providing a matrix of scale/magnitude and importance/sensitivity to identify significance. If different criteria are to be used for different chapters, this should be made clear.

3.4. Section 3.3 of the scoping report states that the level of detail of the assessment in the EIA for each receptor will be appropriate and proportionate to the risk posed, based on the sensitivity of the receptor and the scale of the project. NRW PS agree that the level of detail of the assessment should be proportional to risk. However, based on the level of information that is available in the scoping report on the sensitivity/importance of baseline environment receptors and scale/magnitude of effects, it is premature to define the level of assessment that will be required. The 'screening' of how thoroughly impacts are assessed should not be done until such information is available. Potential impacts that have been scoped into the ES must be assessed to the level that is appropriate to provide a robust evidence base on which to draw conclusions.

3.5. Section 3.6 sets out the evidence base for the EIA and states that Marine Scotland's IMPACT tool has been used to identify potential key environmental impacts and those impacts that are not of relevance. While we have no objection in principle to the use of the tool to assist in developing your scoping report and EIA, evidence must be provided to explain why a decision has been made to scope potential impacts in and out of the assessment.

4. Key Policy and Legislation

4.1. The legislation and policy section must provide a summary of the policy and legislation that is of relevance to the project. It is expected that the policy and legislation summarised would be referred to throughout the ES to assist in assessing the environmental effects of the project.

4.2. Section 4 of the scoping report separates European from national legislation in some sections and lumps them together in others. This is confusing, and in places leads to repetition. For example the maritime spatial planning (EU directive) is covered under the welsh policy and legislation section but the EIA directive is covered under EU legislation and the Marine Works regulations are covered under UK legislation.

4.3. With regards to marine planning, Welsh Government is now developing the first Welsh National Marine Plan. The purpose of the WNMP is to guide the sustainable development of our marine area. Once the plan has been adopted NRW PS must make decisions in accordance with the marine plan, unless relevant considerations indicate otherwise. In preparation for the adoption of the plan, we recommend that any EIA undertaken reviews the contents of the draft Welsh National Marine Plan, and the Environmental Statement considers how the project complies with the draft Policies, or the final policies once the plan is adopted.

4.4. The summary of the Water Framework Directive should make clear that the directive requires that projects must not cause deterioration of a waterbody, or prevent achievement of good status. Both of these aspects must be covered in the Water Framework Directive compliance assessment.

4.5. Section 4.3.5 should make reference to all of the relevant EIA regulations that apply to this project, not just the Marine Works EIA regulations. An application for a section 36 consent would be considered against the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 (as amended) (EWR 2000). You must ensure that consideration of the EWR 2000 and any other relevant EIA regulations is given when preparing the EIA Report.

4.6. It is confusing that information in relation to section 6 and 7 of the Environment (Wales) Act 2016 is covered under section 4.3.7 on the Natural Environment and Rural Communities Act 2006 and not in section 4.2.4 which summarises the Environment (Wales) Act.

4.7. It is your responsibility to ensure that you obtain all relevant permissions/consents for your project. The consenting strategy (section 4.4) appears to be incomplete and for example makes no reference to the following consents. If these or others are required for the project they should be included in this section and the relevant legislation/regulations summarised:

- Energy Act (2004) (as amended) section 95 safety zones
- Environmental Permitting Regulations – Flood Risk Activity
- Species licensing

4.8. It should be noted that the Marine Management Organisation (MMO) is currently the regulator for offshore wind, wave or tidal section 36 consent for projects 1-100MW. In April 2019 the powers will transfer to Welsh Ministers and Welsh Government (WG) will determine consents for projects 1-350MW. Applications received before 1st April 2019 will be determined by the MMO. Applications received after 1st April 2019 will be determined by WG.

4.9. The proposal is relevant to sites designated under the Conservation of Habitats and Species Regulations 2017 (as amended). The project will require consideration by the competent authority under Regulation 63 in the form of a Habitats Regulations Assessment (HRA) which will take the conservation objectives of the designated sites concerned into account. EIA and HRA are separate processes and the scoping report occasionally strays into HRA territory, for example table 7.9 discusses the issue of disturbance set against the conservation objectives of marine Special Areas of Conservation (SAC). This is not to say that information contained within the ES is not relevant to the HRA process. The ES should either include a section/annex containing information to inform the HRA or this should be provided as a separate report.

4.10. Certain species listed in Annex IV(a) of the Habitats Directive, and whose natural range includes any area in Great Britain, are legally protected under the Habitats Regulations and the Conservation of Offshore Marine Habitats and Species Regulations 2017. The Regulations prohibit the deliberate capture, injury, killing or disturbance of any ‘European Protected Species (EPS)’. Whether or not an EPS licence is required for activities will depend on the significance of any disturbance which should be determined as part of the EIA process and documented in the ES.

5. Project description

5.1. At this stage there are uncertainties associated with the project description e.g. cable deployment method, cable landfall location etc. The EIA must address this uncertainty so that there is a clear explanation of the potential impact of each of the different scenarios. The flexible project design envelope will need to achieve an appropriate balance between providing sufficient detail to allow for a robust assessment of impacts, whilst retaining the flexibility to avoid the need for licence modifications in the future. It is likely that some project design parameters will need to be tightly defined, where the potential for impact on sensitive receptors is

significant. Other project design parameters may be more benign in their potential to cause significant effects and so greater flexibility within the design envelope can be retained.

5.2. The scoping report currently states that 'The EIA will account for the use of at least 100 4Te filter units'. A worst case scenario should be assessed within the EIA report. This should include dimensions of proposed cable protection and the area of seabed this is likely to cover. Details should also be provided about proposals for cable protection during decommissioning and whether this will be removed upon the completion of the lifetime of the project.

5.3. All options being considered as a possibility for the layout configurations of the tidal turbines and offshore infrastructure should be included in the ES.

5.4. Consideration should be given to the possibility of the need to locate and detonate unexploded ordinance (UXO) in the area prior to construction. If required, assessment of the impacts of UXO detonation on sensitive receptors in the area should be considered in the EIA, including any appropriate mitigation.

5.5. The potential effects of the development during the operational phase, including maintenance works to the offshore structures and cables, must be assessed within the EIA ~~in order~~ to ensure that full consideration is given to potential effects on sensitive receptors during all phases of the development. This should include the requirement to carry out cable (array or export) repairs by de-burial throughout the life of the proposed project. The maximum parameters assessed must be presented and should include the number of repairs, the length of each instance of repair, the area of seabed to be affected and the potential method(s) to be used.

5.6. Decommissioning of any deployed tidal energy device must be considered at an early stage in the development cycle for the Ynys Enlli project, with reference to any relevant information (including sections 105 – 114 of the Energy Act 2004 as amended. BEIS is current in the process of updating its guidance on offshore renewables decommissioning and once the updated guidance has been published it should be followed[2].

6. Human Environment

6.1. Local Communities and Socioeconomics

6.1.1. The development will be subject to the Health and Safety at Work Etc Act 1974 and subordinate legislation including the Management of Health and Safety at Work Regulations 1999 and Construction (Design and Management) Regulations 2015. These regulations impose duties on designers and developers to eliminate or where this is not possible reduce risk to people involved in the construction, operation, maintenance and decommissioning of the tidal array. We recommend that you contact the Health and Safety Executive to discuss these requirements.

6.2. Commercial and Local fisheries

[2] https://www.gov.uk/government/consultations/offshore-renewables-decommissioning-guidance-for-industry-proposed-updates

6.2.1. The Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW) best practice guidance for fisheries liaison[3] should be followed to ensure continued liaison with the fishing industry through the planning stages and all subsequent stages of the project (FLOWW, 2014).

6.2.2. Table 6.2 of the Scoping Report details the potential impacts on commercial and local fisheries. This table should include the potential impact of disruption to fish and shellfish migration routes and this should be scoped into the ES. Bardsey Sound is an unusual habitat and rare within Wales (Miles, 1998)[4]. Certain fish species are known to be present at both ends of the Sound e.g. mackerel, bass, turbot. The area's importance in the context of their migration routes needs to be assessed, in particular whether they use the tidal currents throughout the sound for migration up and down the coast, whether there will be any impact by noise and vibration to these species and impacts on prey species e.g. sand eels etc.

6.2.3. Table 6.2 of the Scoping Report rules out a 'change in abundance of targeted species'. It is unclear whether this refers to locally caught commercial species only or targeted recreational angling species. Uwchmynydd is known for its Bull Huss fishing and anglers travel distances to target this species, as well as large pollock[5]. In addition, bass, turbot and mackerel are caught at each end of the Sound. As no evidence has been provided to back up scoping this potential impact out of the assessment, it must be included in the ES.

6.2.4. Section 6.2.2 states that 'there are three commercial fishing ports in Wales: Holyhead, Saundersfoot and Milford Haven'. We agree that these are three main commercial fishing ports, however, there are several other fishing ports in Wales which should be considered in the ES e.g. Pwllheli, Swansea, Aberystwyth, Conwy etc.

6.3. Land use

6.3.1. NRW PS currently have no comments to make on this chapter.

6.4. Seascape and landscape

6.4.1. The scoping report recognises the proposed development's location within the Llŷn Area of Outstanding Natural Beauty (AONB) and the value placed on the area's natural beauty by residents and tourists. We concur with the scoping proposal that the onshore components of the development should be subject to further detailed consideration in the ES.

6.4.2. Details of the grid connection with regard to the kV connection and strategy for connection (buried, over ground with new infrastructure and what that might entail) is required to assess potential effects on the AONB. The 'Holford Rules', whilst developed for siting major electricity infrastructure, provide a useful

[3] Fisheries Liaison with Offshore Wind and Wet Renewables (FLOWW) Group. 2014. FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison. http://www.thecrownestate.co.uk/media/5693/floww-best-practice-guidance-for-offshore-renewables-developments-recommendations-for-fisheries-liaison.pdf

[4] Miles, D.J.L. (1998). Cardigan bay and North Wales (Cwm-yr-Eglwys, Newport Bay to Rhos-on-Sea) (Marine Nature Conservation Review Sector 10)

[5] see http://www.sgeorges.clara.net/companions/Uwchmynydd.htm

guide to site planning for landscape integration. A site planning approach to minimise effects on the AONB is recommended. This is needed to help inform detailed design discussions with Scottish Power Energy Networks.

6.4.3. It is proposed that the offshore components would be considered in the ES using a 'light touch' as the proposed tidal energy devices will be fully submerged at all states of the tide. As the proposed scheme is a lot larger than the array that is in operation in Bluemull Sound off Shetland the scale and geographic extent of the proposal requires careful consideration. Given that this technology is relatively new, the EIA must establish the range of effects the devices will potentially have on seascape. It may help to provide an analysis of the Bluemull Sound scheme with observations concerning any changes to seascape surface currents. Presenting this alongside the Enlli scheme and comparing project parameters would help better capture the project's potential implications on seascapes.

6.4.4. Further information on the installation, maintenance and decommissioning period will be necessary to fully understand the temporary impacts and their nature of effect.

6.4.5. The ES should draw upon the following information in its assessment of the proposal on landscape and seascape:

- 'Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape. Guidance for Scoping an Environmental Statement' SNH 2012. We recommend the use of this guidance but applied to the landscape/seascape policy and designation context within Wales. It applies GLVIA 3rd edition to a seascape context.
- The baseline seascape and landscape units will need to be considered as separate receptors but draw upon adjacent land/sea components where they make an important contribution to visual context and perceptual qualities.
- The Llŷn AONB Draft Management Plan 2015- 2020 is to be referred to. This will provide details of the AONB's special qualities generally found across the area. Site assessment will be necessary to provide more specific information on the special qualities of the locality.
- LANDMAP visual and sensory, geological and historical landscape aspect area evaluations will be relevant to the land based context of the development.
- Regional Seascape Units will be relevant to the seascape and coastal interface to the sea and shoreline context of the development. See 'Natural Heritage Evidence to Support Strategic Planning for Marine Renewable Energy' CCW Policy Research Report No 11/3 2011, particularly Sub-unit L4 Braich y Pwll and Bardsey Island; and Regional Seascape Unit 17, Sub-Unit L5 Bardsey Island to Trwyn Cilan.
- The site lies within Marine Character Area 13: Llŷn and Bardsey Island (Wales National Seascape Assessment). This broader scale characterisation has been referred to in the EIA scoping report and remains relevant to any subsequent ES. The ES will need to assess the effects upon the landscape, seascape character, special qualities and visual amenity. The mainland and Bardsey Island both lie within the

AONB designation and Bardsey Sound is therefore an essential component of the AONB's setting, contributing to its sense of place and its special qualities. Given this interrelationship, we consider Bardsey Sound and wider seascape context to the AONB to be a receptor of high value and expect the assessment to classify it as such.

- Viewpoint analysis will need to identify views from the mainland, Bardsey Island and pleasure craft within Bardsey Sound from where development effects would be experienced. Photomontage images would be required to help illustrate the nature of change.
- The project description for this proposal makes no reference to the need for markers/ lighting, so it is assumed that these are not a requirement of the proposed project. As such, photomontages for the seascape context won't be necessary, however could be needed to illustrate the sub-station and its landscape integration depending on its siting and the sensitivity of the chosen locality.

6.5. Archaeology and cultural heritage

6.5.1. The array area and the onshore cable route have potential to include shipwreck material and evidence for former land surfaces – particularly in the crevices in bedrock and in the seabed deposits comprising the more sheltered areas of Aberdaron Bay and its foreshore. There are several documentary references to vessels driven ashore at Aberdaron. There is also the located remains of the small steamship GLENCOCUM (NPRN 271333) which falls within the onshore cable proposed study area.

6.5.2. The following scheduled monuments have been identified in the vicinity of the proposed works and the potential for impacts on these must be considered in the EIA:

- CN089 The Senacus Stone formerly in Tudweiliog, Dwyfer

6.5.3. The following listed buildings have been identified in the vicinity of the proposed works and the potential for impacts on these must be considered in the EIA:

- 4225 Church of St Hywyn Grade I
- 4226 Row of 5 Cottages North of, opposite Church of St Hywyn Grade II
- 4227 Pont Fawr Grade II
- 4228 Pont Fach Grade II
- 4229 Y Gegin Fawr Grade II
- 4230 Glasfor, Gwynfor & Uwch-y-Don Grade II
- 19990 The Post Office Grade II
- 19991 Milestone on Pont Fach Grade II
- 19992 Y Felin Grade II

6.5.4. The following registered historic landscapes have been identified in the vicinity of the proposed works and the potential for impacts on these must be considered in the EIA:

- HLW (Gw) 8 Lleyn and Bardsey Island

6.5.5. The location of the cable landfall has not been determined and therefore it is possible that it will have an impact on the settings of the scheduled monument and listed buildings identified above. If this is the case, then an assessment of this impact must be undertaken following the guidance given in the Welsh Government document “The Setting of Heritage Assets in Wales”.

6.5.6. There is potential that unidentified archaeological sites or deposits might be affected by the proposals and the settings of undesignated archaeological monuments and buildings (both listed and undesignated) might be affected by the proposals. This must be investigated as part of the EIA.

6.5.7. The scope of further archaeological assessment work should be set out in a Written Scheme of Investigation (WSI). We recommend that you consult both the Gwynedd Archaeological Trust and Royal Commission on the Ancient and Historic Monuments Wales (RCAHMW) to agree the WSI.

6.5.8. The WSI must include:

- A desk based review – This must draw on information from the regional Historic Environment Record (HER), the National monuments record (NMR) held by the RCAHMW and the local archives and must include a map regression and a review of any relevant aerial photographs and Lidar data.
- A detailed walkover survey – this must be undertaken between Aberdaron and Porth Meudwy as the area has been subject to very little systematic archaeological survey in the past and there is high potential for the discovery of unidentified archaeological sites.
- A marine survey – this is likely to include an archaeological review of multibeam, sidescan sonar, bathymetry and magnetometer survey data.

6.5.9. This first iteration of the WSI should include the results of the desk-based assessment of known and potential receptors and set out how further geophysical/geotechnical investigations within the array area and cable corridor will assist with the determination of potential impacts on those receptors. For example, how geophysical surveys such as multibeam sonar and/or side scan sonar and magnetometer surveys will assist in the determination of the presence/absence of archaeological remains relating to shipwrecks and downed aircraft, and how sub-bottom profiling, cores, cone penetrometer tests (CPT) and grab sampling will refine the sediment model related to determining the impact on deposits containing evidence for submerged landscapes.

6.5.10. The second iteration of the WSI should be informed by the archaeological studies undertaken as part of the first iteration. The second iteration should include archaeological provisions for the lifetime of the scheme based on increased certainty about any necessary mitigation actions for residual effects of impact. For example, the definition of archaeological exclusion zones and proposals for their monitoring going forward.

6.5.11. The WSI/Archaeological assessment must be undertaken by a suitably qualified and experienced archaeological professional and must meet the standards of the Chartered Institute for Archaeologists.

6.5.12. The review of subsurface historical interest features using existing bathymetric data and geophysical data suggested in section 6.5.4 of the scoping report must be undertaken.

6.5.13. Section 6.5.4 of the scoping report states that data from Archwilio and Coflein will be used to develop the baseline. Neither of these datasets are designed to be used for commercial or development management purposes and doing so puts commercial organisations in breach of the access agreements and terms of use. The statutory Historic Environment Record (HER) and the Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMW) must be contacted directly to obtain up to date and fully referenced data to support the development of the EIA.

6.5.14. The EIA should not only be undertaken in accordance with the 2006 COWRIE guidance but should also utilise the following guidance on best practice:

- Crown Estate/Wessex Archaeology, 2010, Model Clauses for Archaeological Written Schemes of Investigation Offshore Renewables Projects[6]
- COWRIE, 2011, Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector[7]
- Crown Estate/Wessex Archaeology, 2014 Offshore Renewables Protocol for Reporting Archaeological Discoveries[8]
- English Heritage, Historic Scotland, Cadw, 2013, Historic Environment Guidance for Wave and Tidal Energy, prepared by Fjordr Ltd[9]

6.5.15. We disagree that the potential impact on archaeology and cultural heritage during operation, maintenance, and decommissioning should be 'scoped out' of the EIA. This must be scoped into the EIA.

6.6. Ministry of Defence

6.6.1. The location of the proposed scheme infringes the Aberporth Range. Potential impacts due to increased shipping/marine activity must be assessed in the EIA. Traffic movements will need to be closely coordinates with the Qinetiq Aberporth Range, to ensure that range safety and risk to personnel associated with the Ynys Enlli project is not compromised.

6.7. Aviation

6.7.1. NRW PS currently have no comments to make on this chapter.

6.8. Tourism and Recreation

[6] http://www.wessexarch.co.uk/system/files/WSI%20Renewables_low%20res.pdf
[7] https://www.thecrownestate.co.uk/media/5901/km-ex-pc-historic-012011-offshore-geotechnicalinvestigations-and-historic-environment-analysis-guidance-for-the-renewable-energy-sector.pdf
[8] http://www.wessexarch.co.uk/system/files/PAD%20Offshore%20Renewables_reduced.pdf#sthash.xKUFBPAH.dpuf
[9] https://www.historicengland.org.uk/images-books/publications/historic-environment-guidance-wave-tidalenergy/

6.8.1. There is only one reference to angling in the Scoping Report (page 53) that refers to chartered angling trips. Sea angling in Bardsey Sound therefore appears to have been omitted from the Scoping Report. Recreational sea angling is popular around the coast of the Llŷn, including Bardsey Sound during the summer months[10]; this should be addressed within the ES as disturbance to recreational sea angling activities may occur if a change in abundance of targeted species occurs as a result of the proposal. Both ends of Bardsey Sound offer different fishing experiences, there are renowned mackerel marks at one end coming out of Aberdaron Bay and the renowned Tripod banks at the other for bass and turbot fishing. Further information about this can be found on various angling and tourism websites.

6.9. Noise and Vibration

6.9.1. Nova Innovation advised that they did not require NRW PS to seek advice from external advisors regards the Scoping Report and underwater noise at this stage. NRW PS advised that external advisors will be consulted on receipt of a marine licence application specifically with regard to underwater noise and vibration. Should advice be received indicating the ES is insufficient in terms of considering impacts on these matters there may be a delay to the determination of the application whilst these matters are addressed.

6.10. Air quality

6.10.1. NRW PS currently have no comments to make on this chapter.

6.11. Traffic and Transport

6.11.1. NRW PS currently have no comments to make on this chapter.

6.12. Shipping, Navigation and Marine Infrastructure

6.12.1. The Environmental Statement must provide details of the possible impact on navigational issues for both commercial and recreational craft, specifically:

- Collision Risk
- Navigational Safety
- Visual intrusion and noise
- Risk Management and Emergency response
- Marking and lighting of site and information to mariners
- Effect on small craft navigational and communication equipment
- The risk to drifting recreational craft in adverse weather or tidal conditions
- The likely squeeze of small craft into the routes of larger commercial vessels.

6.12.2. A Navigational Risk Assessment (NRA) must be submitted in accordance with MGN 543[11] (and MGN 372) and the MCA Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of

[10] http://www.sgeorges.clara.net/companions/Uwchmynydd.htm
[11] https://www.gov.uk/government/publications/mgn-543-mf-safety-of-navigation-offshore-renewable-energy-installations-oreis-uk-navigational-practice-safety-and-emergency-response

Offshore Renewable Energy Installations (OREI). This NRA must be accompanied by a detailed MGN 543 Checklist which can be downloaded from the MCA website[12].

6.12.3. The shipping and navigation study must include radar and manual observations in addition to AIS data to ensure vessels of less than 300gt are captured and should be completed within 24 months prior to the Environmental Statement submission. Casualty information from the MAIB and RNLI will also assist in establishing the risk profile for the area.

6.12.4. The NRA should address safe Under Keel Clearance (UKC) for the maximum drafts of vessel both observed and anticipated, from which a realistic UKC assessment should be undertaken. The MCA's Under Keel Clearance Policy paper can be found at the link in the footnote.

6.12.5. The marking of offshore wave and tidal energy installations must be based on recommendations of the IALA, and the offshore structures marking can be found on the IALA website.

6.12.6. Consideration must be given to the implications of the site size and location on SAR resources and Emergency Response Co-operation Plans (ERCOP) for both construction and operation phases. Any additional Search and Rescue requirements, as per MGN 543 Annex 5, will be discussed and agreed at the approval stage and recorded in a SAR checklist.

6.12.7. MGN 543 Annex 2 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey reports to the MCA Hydrography Manager. Failure to report the survey or conduct it to Order 1a might invalidate the Navigational Risk Assessment if it was deemed not fit for purpose.

6.12.8. Particular attention must be paid to cabling routes and where appropriate the burial depth, for which a Burial Protection Index study must be completed and, subject to the traffic volumes, an anchor penetration study may be necessary. If cable protection is required e.g. rock bags, concrete mattresses, a 5% reduction in surrounding depths referenced to Chart Datum is acceptable. This will be particularly relevant where depths are decreasing towards shore and potential impacts on navigable water increase.

6.12.9. The Scoping Report frequently refers to 'Exclusion Zone'. These should be 'Safety Zones' as per the Energy Act 2004. Any application for operational safety zones will need to be carefully assessed and supported by evidence from the development and construction stages. Further guidance can be found on the MCA website[13].

7. Biological Environment

7.1. Results from IMPACT Analysis

7.1.1. As noted in section 3 above, we have no objection in principle to the use of the IMPACT tool to assist in developing your scoping report and EIA. However, evidence must be provided to explain why a decision has been made to scope

[12] https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping
[13] https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping

potential impacts in and out of the assessment. In Table 7.1 no explanation has been provided as to why certain receptors have been scoped out.

7.2. Birds

7.2.1. The project is proposed to be located within the foraging ranges of sites nationally and internationally designated for their importance for birds, such as the Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA and Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA.

7.2.2. In section 7.2.2 Initial Assessment of Potential Impacts on Birds / Table 7.2, we question the 'light touch' approach for assessing displacement of seabirds and seabird feeding habitat loss, based on the small scale of the project and small footprint of the scheme. The level of detail of the assessment should be determined once the baseline data has been collected/collated so that the relative importance/sensitivity of the particular at-sea area for birds is understood.

7.2.3. The scoping report makes reference to Thaxter *et al*., (2012)[14] regarding seabird foraging ranges in section 7.2.3 Refinement of likely significant issues for birds. Since publication of these mean-maximum foraging ranges in Thaxter *et al.,* a great deal of further tracking data has become available, in particular from the Future of the Atlantic Marine Environment (FAME) and Seabird Tracking and Research (STAR) projects. Initial analysis of these data has shown that colony specific tracking data are a valuable tool in determining range overlap, in the absence of which a spatial modelling approach is the most appropriate or as an alternative the use of percentile of the maximum foraging ranges from as wide a range of colonies as is available. The Thaxter *et al*., analysis was only based on 6 colonies for guillemot and 4 for razorbill, whereas the FAME/STAR database includes 11 and 14 colonies respectively.

7.2.4. We recommend that the mean maximum foraging ranges detailed within Thaxter *et al* (2012) are utilised to determine which breeding colonies could be affected by the proposed development, with particular emphasis on colonies that are features of SPAs and SSSIs (these may be located both within and outside of wales). Other data such as the Future of the Atlantic Marine Environment (FAME) and Seabird Tracking and Research (STAR) projects should also be utilised where relevant. Seabird biotelemetry is a fast moving field and so the EIA should not preclude the fact that more data on foraging range are likely to become available throughout the timespan of the assessment and these data should be considered in the final assessment. RSBP should be contacted to obtain the FAME/STAR data.

7.2.5. The list of key species identified in the scoping report with potential connectivity to the project is incomplete and must be informed by baseline surveys. In addition to key species (bird features of designated sites), EIA baseline data is needed to identify all species of birds occurring in the study area. Other species of seabird with potential to be affected must be

[14] Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W & Burton, N.H.K. 2012 Seabird Foraging Ranges as a Preliminary Tool for Identifying Candidate Marine Protected Areas. Biological Conservation, 146: 53-61.

considered, such as shag, razorbill and black guillemot. Additional species for consideration might include Balearic shearwater which is regularly recorded off Bardsey Island.

7.2.6. The potential impact of this development, both alone and in combination with that caused by other plans and projects in the vicinity, upon populations of birds should be addressed through appropriate bird surveys, including terrestrial bird surveys.

7.2.7. Paragraph 7.2.4 of the report states: *Nova and SEACAMS have planned a Bird Survey. This will allow Nova to gain a greater understanding of species behaviours within the Development area and potential connectivity to designate sites*; No details of the Bird Survey are provided – no method statement, timings, or species to be surveyed. Further detail is needed to be able to assess whether the scope of the survey(s) would be suitable. We recommend that the scope of bird surveys is agreed with NRW TE, RSPB and Gwynedd Council Biodiversity Team.

7.2.8. The use of sites by marine birds is often naturally highly variable and this can lead to difficulties attributing changes to a particular cause. Due to the paucity of systematic data, the longevity of birds, inter-annual and weather dependant variations, at least two years of pre-application data must be collected following Scottish National Heritage (SNH) guidance (Jackson and Whitfield 2011)[15], covering all seasons and including both breeding and non-breeding populations, to produce an up to date density of birds utilising the site. There is only a small amount of data currently available for the area with a few flights in the summer of 2008 and one in the winter of 2007. Available data are minimal, very patchy and out of date, so it is important to establish as accurate a density as possible as there are so many other inaccuracies in the collision risk modelling. Potential mortality from this project will need to be combined with the Morlais and Minesto projects to consider the cumulative impact on protected sites and populations. Boat based surveys will be required owing to the distance of the development site from the shore and the uncertainties in identification from planes for certain species. The extent of the offshore site should be identified to provide a defined site boundary and appropriate buffer. The parts of the SNH guidance which advise the use of vantage point surveys should be investigated further.

7.2.9. The scoping report states that collision risk will be assessed. Contemporary bird survey data is a key input into modelling studies including underwater collisions risk model. Guidance on collision risk is available from SNH and it is recommended that you seek advice on this matter from NRW TE.

7.2.10. To fully assess the potential impacts of the scheme on birds, all ancillary components must be considered. These may include the cable landfall, access tracks, electrical connections (overhead lines or buried cables), construction compounds, sub-stations or other structures required by the scheme. The RSPB should be contacted to obtain relevant terrestrial bird data for the general vicinity, including chough data.

[15] Jackson, D., and Whitfield, P. (2011). Guidance on survey and monitoring in relation to marine renewables deployments in Scotland. Volume 4. Birds. Unpublished draft report to Scottish Natural Heritage and Marine Scotland.

7.2.11. Bardsey Bird and Field Observatory has an extensive dataset which covers several decades, which may provide a useful source of information for this project.

7.2.12. If necessary, when considering mitigation in the EIA, consideration should be given to time-related restrictions on construction, in relation to nesting periods; and the use of sympathetic land management.

7.3. Marine Mammals

7.3.1. One of the key areas of focus within the ES will be the impacts of the proposal on marine mammals. The scoping report conclusions are primarily based on the findings of the SEACAMS report (Appendix D), however, this is based on 10 turbines not 20 and therefore the conclusions appear to be flawed. In addition, in the scoping report it is not clear how and why issues are being assessed firstly by SEACAMS and then by Nova, nor how issues are being refined from one stage to the next.

7.3.2. Within the scoping report, all the potential pathways for impacts should be presented first (as in Table 7.5) followed by the reasoning and evidence for scoping in or out of further assessment. A column in Table 7.5 listing the proposed approach would assist the reader. Not all the impact pathways in Table 7.5 are explored in Table 7.9 by species, whether that be a quantitative or a 'light touch' approach. It isn't clear how the information in Table 7.9 relates to the information in Table 7.8, but it needs to be clear which impact pathway for which species is going to be assessed in the EIA. As such, it has been difficult to determine which impact pathways will be considered in the EIA.

7.3.3. The following potential impacts are not covered in the scoping report and must be considered in the EIA:

- auditory masking from underwater noise (during construction and operation),
- prey depletion/changes, and,
- change in habitat of prey species.

7.3.4. It is recommended that the risk based approach outlined in Sparling et al 2015[16] should be applied to all key issues identified. While Sparling et al (2015) is designed for determining preapplication survey needs it usefully provides worked examples of common impact pathways for Welsh relevant tidal developments and Welsh relevant species. Chapter 5 lays down a framework / matrix approach, typical in EIA, for categorising the significance of impact pathways, by considering technology, scale of project, site sensitivity, project duration and species vulnerability. This is represented by Stages 1-6 in Figure 2 of Sparling et al (2015) and goes on to state "We propose that a classification of overall 'risk' (stage 6 in Figure 2) is assigned to a proposed project. (p.25)" and "It is anticipated that this process would be followed by developers at the

[16] Sparling C., Smith, K., Benjamins, S., Wilson, B, Gordon, J., Stringell, T., Morris, C., Hastie, G., Thompson, D & Pomeroy, P. Guidance to Inform Marine Mammal Site Characterisation Requirements at Wave and Tidal Stream Energy Sites in Wales. NRW Evidence Report Number 82.

scoping stage of projects (p.24)". Sparling et al 2015 can aid in determining baseline data requirements for specific pathways but is in no way prescriptive.

7.3.5. Disturbance to marine mammals from underwater noise during operation is proposed to be considered using a 'light touch' approach with the justification being a "small scale project …and likely ambient noise". This impact pathway must be considered at an appropriate level that is proportionate to the potential impact. It cannot currently be determined from the information presented what the ambient noise is (will require measurement) and what the noise levels and frequencies are from the turbines.

7.3.6. Reduction of access to food resource for marine mammals is proposed to have a 'light touch' approach with the justification of habitat being available elsewhere. However, evidence based on Ordnance Survey maps, expert judgement and common knowledge shows that there are few equivalent areas (sounds) of similar oceanographic features in Wales. Indeed, it is stated in the scoping document (p.91) that "The tidal flow near Bardsey Island ranks among the fastest flowing tides in the Irish Sea". Bardsey Sound is therefore considered to represent a relatively unusual habitat in Wales - there are only two other 'Sounds' in Wales and tidal flow is high here in comparison to much of Wales' coast.

7.3.7. It is unclear what the issue of 'noise above the surface' relates to for marine mammals.

7.3.8. Barrier to movement of marine mammals is another issue which is proposed to undergo a 'light touch' assessment within the ES, due to the small scale of the turbines. The installation proposal is for a medium to large array of 20 turbines which could be a barrier to movement in a restricted sound. Barrier effects must be considered in the ES, especially for harbour porpoise, bottlenose dolphin, grey seal and Risso's dolphin. Bardsey Sound is located within the Pen Llŷn a'r Sarnau SAC which has bottlenose dolphin and grey seal as qualifying features, West Wales Marine candidate SAC which has harbour porpoise as a qualifying feature and an area of search for a Risso's dolphin MPA, which implies the importance of Bardsey Sound for these species. Cetaceans are routinely observed in the sound (WDC pers. comm; Eisfeld & Lott 2013; Eisfeld et al in prep)[17].

7.3.9. Minke whale should be considered as they are observed throughout Welsh waters (particularly during summer). Although sightings of Minke whale are not as common around Bardsey as they are in deeper waters of the Irish Sea and Celtic Sea fronts, the frontal systems around Bardsey e.g. the Bardsey deep, are likely to attract the species (Baines & Evans 2012)[18].

7.3.10. In the species descriptions (A1-A5), Marine Mammal Management Units should be detailed. These are the spatial scale at which assessments should be made.

7.3.11. A.1 Grey seal. The 'population' is centred on Pembrokeshire not Cardigan Bay where there are relatively few colonies. Please note that the

[17] Eisfeld, S.M. and Lott, R. (2013). Risso's dolphins in North Wales. CCW Contract Science Report No. 1021. 26 pp. Eisfeld, SM et al in prep. Bardsey report 14-16 Draft to NRW (WDC).

[18]). Baines, M.E. and Evans, P.G.H. (2009) Atlas of the Marine Mammals of Wales. CCW Marine Monitoring Report No. 68. 84pp.

NRW commissioned census of pups in North Wales during the 2017 pupping season is now available.

7.3.12. A.2 Bottlenose dolphin. The text should reflect both coastal bottlenose dolphins and offshore bottlenose dolphins e.g. “There are two main areas of UK territorial waters where there are semi-resident groups of coastal bottlenose dolphins”. There is no evidence of exchange of coastal bottlenose dolphins of Cardigan Bay with groups in SW UK waters or west Ireland: there is limited exchange, hence the reasoning for the Irish Sea Management Unit for the species.

7.3.13. A.4 Risso’s dolphin. Risso's dolphins are routinely observed off Bardsey, especially in the summer months (Baines & Evans 2012[19]; de Boer et al 2013[20]; Eisfeld & Lott 2013; Eisfeld et al in prep; WDC pers. comm)[21].

7.3.14. A.5 Other cetacean species.

- It is not true that white-beaked and white-sided dolphin occur around Bardsey. It is more common to see Killer whale and Humpback whale than these two species. There are several species that are occasionally sighted but the cetacean species that should be considered in the ES are: harbour porpoise, bottlenose dolphin (coastal and offshore), Risso’s dolphin, Common dolphin, Minke Whale.
- The highest densities of common dolphins are in the SW approaches and Celtic sea. The text states: “The risk of significant impacts on other species (i.e. population level impacts) is so low for this project…”. It is important to present the information first before drawing that conclusion. It should be noted that under injury and killing (e.g. through collision during operation) EPS procedures, it is individuals that are considered rather than population level impacts (which relate to disturbance)

7.3.15. Although, we generally agree with the assumption that the probability of connectivity to SACs increases with proximity to the site (page 72), this assumption is currently being explored further as it may not be appropriate for grey seal biology (not strictly central place foragers). Nevertheless, for EIA assessments, the location of SACs shouldn’t be the only consideration and is the reserve of HRA.

7.3.16. Please note that Management Unit abundance estimates (see table 7.7) are likely to be updated soon with the revised SCANS III estimates[22]. SCANS III contains abundance estimates for Risso’s dolphin. The SCANS II estimates have also been revised.

7.3.17. As stated above, a number of the assumptions made in the SEACAMS Risk Assessment for Marine Mammals (page 73 and Appendix D) appear to be incorrect, rendering the majority of the results/conclusions in

[19] Baines ME, Evans PGH (2012) Atlas of the Marine Mammals of Wales. 2nd Edition. Marine Monitoring Report No. 68. Countryside Council for Wales, Bangor.

[20] M. Boer, J. Clark, M. Leopold, M. Simmonds and P. Reijnders, Photo-Identification Methods Reveal Seasonal and Long-Term Site-Fidelity of Risso’s Dolphins (Grampus griseus) in Shallow Waters (Cardigan Bay, Wales)

[21] Eisfeld, S.M. and Lott, R. (2013). Risso’s dolphins in North Wales. CCW Contract Science Report No. 1021. 26 pp. Eisfeld, SM et al in prep. Bardsey report 14-16 Draft to NRW (WDC).

[22] https://synergy.st-andrews.ac.uk/scans3/2017/05/01/first-results-are-in/

Table 7.8 and the subsequent text incorrect. SEACAMS made the assessment based on a worst case of 10 turbines rather than 20. As such, they have considered the array as being 'small' rather than medium or large. In Sparling et al 2015 a small array is assessed as 3 turbines. The installation of 20 devices should be considered a medium sized array (based on number of turbines rather than electricity output).

7.3.18. The SEACAMS report concludes that the location sensitivity is medium or low for all species. In all cases, we would consider the location as being high sensitivity due to its designation (SAC), rich area (grey seal, harbour porpoise, bottlenose dolphin) or its local importance for the species (Risso's).

7.3.19. The SEACAMS report also considers the installation site as 'open-sea' with which we disagree. The site is in a sound which has a relatively restricted geography. The site and oceanographic conditions are also not readily available elsewhere. This has implications for assessing the barrier effect pathways in the Sparling et al 2015 framework, rendering the results of the technology risk stage as High in all cases.

7.3.20. Based on the above and following through the proportionate risk based framework of Sparling et al 2015, the impact pathways for collision, disturbance, and barrier effect for each species should result in an overall risk of 'Medium' or 'High' in each case. An overall risk of Medium or High results in the same decision pathways taken and the need for specified characterisation surveys/monitoring and or modelling.

7.3.21. It is not clear how the Sparling et al 2015 framework has been applied to assess the impact pathway of 'indirect effect on prey species', which is not covered therein. Although Sparling et al (2015) is designed for determining preapplication survey needs it usefully provides worked examples of common impact pathways for Welsh relevant tidal developments and Welsh relevant species, as discussed above.

7.3.22. It is difficult to comment on the section 'Further Refinement by NOVA' because it is intricately linked to the conclusions from the SEACAMS report (Appendix D). As advised above, amendments need to be made to the SEACAMS assessment before we can provide full comments.

7.3.23. Based on the corrected conclusions from Sparling et al 2015, most species and pathways would require a detailed quantitative assessment and might require survey due to the high overall risk. For example, under collision risk for grey seal/bottlenose dolphin/harbour porpoise (Table 7.9) it states, "additional data collection would be disproportionate to risk". However, the corrected risk is high thus necessitating a proportionate investment into quantitative assessments and data collection; it is premature to conclude that no data collection would be required without presenting and scrutinising the available evidence.

7.3.24. It is not clear why barrier effect is only listed for bottlenose dolphin in Table 7.9. We consider that this pathway is relevant to other marine mammal species, as discussed above.

7.3.25. More clarity is needed in the description for harbour porpoise and disturbance in Table 7.9. It should be noted that there is an explicit disturbance conservation objective for porpoise candidate SACs meaning under the HRA it

is likely that a detailed assessment would be required, which may require further survey if existing information is not at suitable resolution.

7.3.26. Please note that Risso's dolphin does not have associated SACs (Table 7.9 p77).

7.3.27. In section 7.3.4 it is stated that "four key marine species" should be assessed but it is unclear which, given that there are six species highlighted in Table 7.9.

7.3.28. Regarding the marine mammal collision risk assessment approach; clarification is required as to how the sensitivity of the species and the importance of project area will be incorporated. It is unclear whether this statement refers to collision modelling or a risk assessment framework e.g. Sparling et al 2015.

7.4. Fish

7.4.1. Table 7.10 states that the 'key issue' of disturbance of spawning grounds does not warrant detailed consideration within the ES. It should be noted however, that there are wrasse and other non-commercial species using the area that are typical species of the Pen Llŷn a'r Sarnau SAC reef feature. Disturbance of spawning grounds therefore must be assessed in the EIA and should be considered in information to inform the HRA against the reef feature conservation objectives. See footnote for criteria for selecting 'typical species'[23].

7.4.2. Tagging and recapture studies of salmon on the Dee have indicated that salmon migrate back to the Dee around the south coast of Ireland, and therefore pass through St George's channel and the southern Irish Sea. Without knowing exact migration routes, it is impossible to rule out that fish do not pass through the scoping area. The Celtic Sea trout project[24] provides evidence that sea trout migrate across the Irish Sea. The ES must assess barrier effects with respect to the following species of concern: salmon, sea trout, eels and sea lamprey, and not just large species as detailed in table 7.10, unless evidence is provided that justifies otherwise. Barrier effects at all stages of the proposal should be considered i.e. during construction and decommissioning, as well as operation.

7.4.3. Other fish / shellfish species found in the locality of the proposal and not listed in section 7.4.3 (page 79) include pollock and bull huss. Crawfish is another Section 7 species listed under the Environment (Wales) Act 2016 for which there are records on the mainland and Bardsey. Further information in support of the above is available on angling and diving websites. There are also numerous web pages that identify the type of angling and species caught at Uwchmynydd[25].

7.4.4. Section 7.4.4 of the Scoping Report identifies gaps in fish knowledge including understanding of natural fish population species presence. Elasmobranchs are known to be in the wider area, but their use of the Sound is

[23] https://circabc.europa.eu/webdav/CircaBC/env/monnat/Library/expert_reporting/discussion_2008-2011/work-package_revision/sub-group_papers/typical_species/Typical%20Species-2009_Oct%202009.pdf
[24] http://celticseatrout.com/
[25] http://www.sgeorges.clara.net/companions/Uwchmynydd.htm

unknown and predicted effects of electromagnetic field (EMF) emissions are inconclusive for a number of elasmobranch species. The EIA must assess the potential for impacts from EMF on elasmobranches that are found in the area.

7.4.5. Freshwater Pearl Mussel (FWPM) should be considered in the EIA as having potential connectivity to the proposal (table 7.12) given that they are a species with direct links to salmon and the relatively close proximity of the Afon Eden - Cors Goch Trawsfynydd SAC site for FWPM. As salmon migration routes may be impacted by the proposal, it is pertinent to assess the implication of any potential changes on Freshwater Pearl Mussel populations.

7.4.6. Further clarification of the word 'disturbance' would be welcomed (table 7.13) - does it mean disturbance resulting in delay, injury, death?

7.4.7. With respect to section 7.4.4 literature review and consultation with local fishermen, although useful, it is not going to provide the evidence gap for route and densities of migratory salmonids. From a marine fish perspective, a key concern is whether the proposed development will stop the migration of fish species to important life stage habitats or to waiting predators. Methods for resolving the evidence gaps must be fully explored to further understand how the proposal may impact migratory fish.

7.4.8. An assessment must be undertaken of all habitats and species of principle importance on the Section 7 list of the Environment Wales Act 2016, for potential impacts of the development (including construction, operation and decommissioning) particularly in relation to the potential effects of cabling and EMF. Recent studies have shown potential effects of cabling and EMF on invertebrates and fish (Normandeau et al., 2011)[26]. The gap analysis in Table 1 Appendix B for habitats and species of principle importance in Wales is welcomed which will highlight potential effects of the project on these receptors.

7.5. Coastal and Terrestrial Habitats and Species

7.5.1. Detail of how the power cable will come ashore, and its location has not been included, although the Aberdaron to Porth Meudwy area is given as the most likely general location. Full habitat and protected species surveys of all the terrestrial area which will be impacted must be carried out and the results presented in the EIA.

7.5.2. We recommend that otters are considered in section 7.5 rather than with marine mammals chapter. Otters are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. They are also a feature of the Pen Llyn a'r Sarnau SAC. As otters have been recorded within the proposed development area, ecological surveys should be undertaken to assess the impacts of the scheme on the maintenance of the otter population.

7.5.3. The nationally important spotted rockrose and the two nationally rare lichens detailed in Table 7.15 of the scoping report occur much further to the west of

[26] Normandeau, Exponent, T. Tricas, and A. Gill. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09

the development area and are therefore unlikely to be affected by the proposed cable routes at Porth Meudwy or Aberdaron.

7.6. Benthic Ecology

7.6.1. The scoping report does not mention the following Section 7 priority habitats and species. If these species are located within the zone of Influence (ZoI) of the project they must be assessed in the ES:

- Potential Sabellaria spinulosa reef. There is a record of this potential habitat to the south of Bardsey Island. Whilst this is not directly within the footprint of the development, there is the potential that this habitat could be present elsewhere. Interpretation of acoustic data should be undertaken at the appropriate scale to ensure that biogenic features such as this habitat can be identified.
- Subtidal mixed muddy sediments. This is found within the bay at Aberdaron. Whilst the record is, again, not directly within the footprint of the development, there is the potential that this habitat could be present elsewhere.

7.6.2. Tideswept channels are included in the text as a Section 7 priority habitat. For your information, this area doesn't fit the description of tideswept channels as the sound is wider than 2km. However, it does still support tideswept communities and these should be included in the reef feature assessment.

7.6.3. Changes in physical processes could affect the lower intertidal/infralittoral tideswept reef habitats (Scoping report Table 7.17). Until detailed modelling of the physical processes has been undertaken, this is difficult to determine. Assessing the potential effects on marine ecology relies heavily on coastal processes modelling and as such we disagree with scoping this out of the ES. The ES must include an assessment of the potential for physical disturbance on intertidal/infralittoral habitats.

7.6.4. It is unclear from the scoping report whether it is proposed to use multibeam data to create a habitat map of the area. As the area within Bardsey sound is Annex I Reef, we would expect the multibeam to be fully ground-truthed using suitable methods (e.g. DDV or divers) to determine habitats present within the expected ZoI and also within the cable corridor. Biotope information is needed to determine whether communities present will be potentially impacted by the development. The Marine recorder database should also be used to identify habitats.

7.6.5. The method for installing the export cable across the intertidal has not yet been determined; current options comprise DDR or pinning/trenching. The latter option may alter the coastal character and therefore have potential effects on benthic habitats and species. We agree that this should be scoped into the EIA.

7.6.6. Table 7.17 of the scoping report states that the small scale of the project means that effects resulting from '*alteration of intertidal communities from change in physical processes*' are highly unlikely and further consideration within the ES would not be appropriate. We are inclined to agree with this statement as it is likely that any energy removal from the system (at the proposed scale) that could potentially affect the intertidal communities would

fall within the tolerances of these habitats and species. However, in the absence of specific modelled outputs indicating potential changes in coastal processes and hydrodynamics as a result of the proposed development it is not possible to say with any certainty that the project will not have a 'significant adverse effect' on the intertidal reef feature (and associated communities and notable species) that make up the marine elements of the Pen Llŷn a'r Sarnau Special Area of Conservation (SAC). Therefore, intertidal elements should be scoped in to the EIA (and HRA) process.

7.6.7. The Scoping Report does not contain any information related to the presence of marine invasive non-native species (INNS) in relation to the development site or other areas that will be utilised as part of every stage of development e.g. related ports and harbours utilised as part of the development process. This must be presented in the ES. Baseline information can be obtained from NRW and NBN Atlas[27] on relevant marine INNS in respect of key ports/harbours to be utilised as part of the proposed development.

7.6.8. A full biosecurity risk assessment for all aspects of the development (all stages) must be undertaken in relation to the risks posed by activities potentially contributing to the introduction and spread of INNS. The risk assessment should include information related to all vessel and equipment utilised as part of the development in relation to known presence of marine INNS in relevant areas.

8. Physical Environment

8.1. Physical Processes

8.1.1. The impact '*Alteration of intertidal communities from change in physical processes*' detailed in table 7.17 has been proposed to be scoped out of the EIA. As stated in section 7.6 above, the method for laying the cables is at present unclear. If the cables are buried (achieved where surficial sediment is between 1-3m of suitable thickness) then it is unlikely that there will be alteration to physical processes as it is below the seabed. However, in areas where it is impractical to achieve cost effective burial, cables are typically surface laid and subsequently protected using for example rock replacement or concrete mattresses. The addition of rock protection onto the seabed in shallow nearshore/intertidal areas could alter the physical processes and consequently cause morphological change through modification of the nearshore/intertidal wave regime, through blockage or through diversion of sediment transport pathways. This could lead to an alteration of intertidal communities. As stated above, it is premature to scope this out of the EIA and it must be considered in the ES.

8.1.2. Whilst the EIA scoping report has identified most of the potential impacts caused by alteration to physical processes, consideration must also be given to the following in the ES. To scope out these potential impacts at this stage is premature without further detail on the cable route and method for laying. Further details ca be found in Neill *et al.,* 2009[28]:

[27] https://nbnatlas.org/

[28] S.P. Neill, E.J. Litt, S.J. Couch, A.G. Davies. The impact of tidal-stream turbines on large-scale sediment dynamics. Renew Energy, 34 (12) (2009), pp. 2803-2812.

- Turbulent effects: How far downstream from the array could additional turbulence effects occur within the water column. This will have a direct bearing on the ecological features of interest.
- Change to tidal regime: The assessment should address how the magnitude and direction of current/flow is expected to change within and nearby to the devices as a whole.
- Wave regime: Could the tidal energy devices modify wave characteristics as they propagate through the tidal array? Do these changes extend to the coast to change erosion and accretion patterns i.e. influence coastal morphology through modifying rates of erosion, sediment transport and accretion.
- Suspended sediment concentration (SSC) and bed level changes (related above to effects to bed load sediment transport): Construction related activities could cause a significant increase in SSC (as has been noted), but additionally cause bed level changes.
- Could seabed morphology and features (especially sandbanks) be altered as a result of alteration to wave/current induced bed shear stresses or could there be a change in the effects of wave/current interaction which could change the energy distribution at the bed and/or at the coastline?
- How may the coast at the landfall alter through the lifetime of the development both in terms of vertical change in beach profile (relevant to cable burial) and coastal retreat (relevant for siting of jointing bay infrastructure etc.).

8.1.3. Section 8.1.4 of the scoping report states that "*Nova in collaboration with SEACAMS will be deploying ADCPs to get a thorough understanding of the potential tidal energy resource in the area. Data gathered from the ADCP will be used to validate a 3-D hydrodynamic model for the site. This hydrodynamic model will be used to finalize the array design. It will further allow Nova to establish the potential impact of the project*". The numerical modelling approach for baseline characterisation must be fit for purpose covering the range of parameters that are relevant to the project and covering an appropriate temporal and spatial scale for both near and far field effects. We recommend that the model set up, covering the following information, is agreed with NRW TE prior to the work being undertaken:

- Model type
- Model domain (the model domain should be large enough to cover the entire area where such effects might be seen i.e. define the extent of influence)
- Input boundary conditions
- Mesh size and type (it is of critical importance that the mesh resolution of the chosen model is sufficiently detailed to represent the interaction between flow and features of interest. Higher resolution will be required to simulate flows and sediment transport close to the shore where features such as reefs, sandbanks and caves need to be represented),
- Model calibration and results against observed data
- Model parameters and sensitivity tests
- Model validation and results against observed data.

8.1.4. There is a close dependency between the accuracy and reliability of numerical model prediction and the quality and quantity of supporting data

used in the model development and testing process. The baseline characterisation presented in section 8.1.4 does not detail what physical process data is currently available, how suitable it is for use, the extent of cover and critically does not identify any data gaps and requirements for further data collection. There is reference earlier in section 5.1.2 that a MBES survey of the area was carried out by SEACAMS but it is not clear how suitable this data is for use in the model and whether the survey was ground-truthed through a programme of grab sampling or coring. For the EIA you must conducts a thorough investigation to identify all available physical processes data sources and any data used in model development/testing should be supported by adequate metadata (source, location, date/time, instrument used and data quality assurance process).

8.1.5. If there is a requirement to collect more data following a detailed desk review of available data, we recommend that a field measurement campaign report, detailing the results of the desk study and the objectives and methodology for collecting further data, is agreed with NRW TE. This should include (but not limited to): deployment/sampling location, instrument type, period of data collection, sampling frequency, quality assurance procedures. We recommend that the principles and standards set out by Marine Environmental Data Information Network (MEDIN) should be applied to any new data collecting programme.

8.1.6. As a minimum a 3-D hydrodynamic model requires the following input data, and sufficient data should be available or collected to satisfy the input requirements:

- Sufficient bathymetric cover (MBES survey) for the area of model domain to define seabed features of interest (reefs, caves, sandbanks) and ground-truthed through a programme of grab sampling/cores followed up by laboratory particle size analysis.
- Tidal water level data (obtained either from a standard A class tide gauge near to the development site and GPS referenced).
- Tidal current speed and direction data measured throughout the water column preferably with a fixed bed mounted ADCP (minimum 30 days to cover two spring/neap tidal cycles).
- Temperature
- Salinity
- Wave height, period and direction data at model boundary – in the consideration of combined wave plus tidal current modelling.
- Wind data for area of model domain.
- Bed roughness parameter (function of bedforms), rock outcrops, particle size, consolidated sediment layers. All which can have important local effect of critical shear stresses for sediment movement and on current flow velocities.
- Suspended Sediment Concentration – samples collected throughout the water column over several tidal cycles representative of range of tidal and wave conditions.

8.1.7. The scoping report does not explain how the 3D hydrodynamic model will be used to assess the sediment dynamic impacts (suspension of sediment, sediment dispersion, scour and deposition caused by sub-sea infrastructure)

and effects to bed load sediment transport due to presence of inter-array and export cables. This should be clarified in the EIA.

8.1.8. If sediment transport modelling is to be carried out to assess sediment dynamics impacts caused by the subsea infrastructure and offshore cables, then we advise that sediment grain properties (particle size (D10, D50, D90 etc.), shape, density, distribution and settling velocity, critical shear stress) and bulk geotechnical properties (cohesivity, strength, erodibility, bulk density) should be derived from taking sediment grab samples and cores. The number and location of sample points should be determined by the size of the area likely to be affected by the scheme/modelling domain and by the environmental complexity of the area. Cores will be required to inform potential seabed mobility of consolidated units and to understand the bed layer thickness and nature of the sub surface material that may be disturbed during installation/decommissioning and released in the water column.

8.1.9. Details have not been provided in the scoping report regarding the data that will be used or collected in order to assess the effects to physical processes or beach morphology from installation/ decommissioning of cable landfall. Aberdaron Beach (one of the potential landfall sites) is exposed to strong SW swells which can cause significant draw down and movement of the beach sediment. For example, there was a sudden failure of the wall fronting the church in 1995 after a storm. Understanding the behaviour of Aberdaron beach morphodynamics in response to tides and waves through historical beach profiles or Lidar surveys etc should be used to inform the assessment process.

8.2. Water and Sediments

8.2.1. A Water Framework Directive (WFD) assessment must be undertaken to support the marine licence application. The assessment must consider:

- All activities being carried out; and
- Each stage of the activity (i.e. construction, operation, maintenance and decommissioning)

8.2.2. The Daron catchment is currently designated as ‘moderate’ under the WFD standards and it is listed as a priority to ensure it reaches good ecological status by 2021. The Daron is currently failing for phosphate and pH. Further deterioration in the WFD status of relevant waterbodies must be prevented to meet the objective of Good Ecological Status by 2021. Information related to WFD in Wales should be obtained from Water Watch Wales[29] to undertake the assessment.

8.2.3. The scoping report recognises that Aberdaron (one of the potential export cable landfall sites) is a designated bathing water beach under the Bathing Waters Directive (scoping report section 8.2.2). The bathing water season runs from 1st May to the 30th September. Any excavation works could result in the unearthing of bacteria held within the mud underneath the sand. Therefore, any bacterial sampling would need to be carried out prior to the installation. Sediment disturbance could also increase sea turbidity and, depending on location, could affect sediment levels at the sampling point, possibly having an

[29] http://waterwatchwales.naturalresourceswales.gov.uk/en/

adverse effect on bathing water quality. The ES must consider this potential impact in further detail.

8.3. Geology, Soils and Hydrology

8.3.1. Part of the Cable Corridor Area (as shown in Appendix C of the scoping report) is designated for landfall of the export cable and siting of the sub-station within flood risk zone C as defined by the development advice map referred to under TAN 15 Development and Flood Risk (July 2004). Any development within zone C may require a Flood Consequences Assessment (FCA) to be undertaken in support of any planning application submitted. This will ensure that all parties are aware of the risks to and from the development, and ensure that if practicable, appropriate conditions can be incorporated in a planning permission. The criteria for any FCA which should normally be undertaken by a suitably qualified person carrying an appropriate professional indemnity, are given under Section 7 and Appendix 1 of TAN15[30].

8.3.2. There are two main rivers (Afon Daron and Afon Cyllfelin) and a number of flood defences within this Cable Corridor area. Any activities (including undergrounding of the cables beneath the river and/or flood defences), likely to impact on the river and/or the flood defences may require a Flood Risk Activity Permit (FRAP). Further details of which activities may require a FRAP can be found on the NRW website[31].

9. Cumulative Impacts and In-Combination Effects

9.1. Figure 9.1 states that it provides an overview of offshore development in Wales but the map only shows Crown Estate lease areas. The ES must provide a full picture of marine and coastal developments to allow a thorough assessment of cumulative and in-combination effects. Further information on projects to be included and sources of information are provided below.

9.2. The cumulative assessment of other tidal energy projects (section 9.1 of the scoping report) should also consider the proposed tidal lagoon projects.

9.3. Offshore wind energy projects considered should include the Pembrokeshire wave demonstration zone as it is proposed that this will also include floating wind. In addition, The Crown Estate is currently considering taking forward extensions to existing offshore windfarms, including an extension of Gwynt y Mor wind farm (up to 576MW); and is also exploring opportunities for a new offshore wind leasing round (round 4). If relevant information is available on any extension or potential new offshore wind sites at the time of the production of the ES, this should be considered for inclusion in the cumulative and in-combination assessment.

9.4. The list of types of projects for cumulative / in combination impacts, appears incomplete. The following project types should also be considered:

- Disposal of dredged material (as well as dredging)
- Cables
- Pipelines

[30] http://gov.wales/topics/planning/policy/tans/tan15/?lang=en
[31] https://naturalresources.wales/permits-and-permissions/flood-risk-activities/?lang=en

9.5. The cumulative assessment should include Marine Licences and Marine Licence applications. Information on marine licence applications can be found on the Welsh Government Marine Planning Portal[32] or downloaded from Lle[33]. The assessment should also include developments allocated within the statutory development plan, and in the draft Welsh National Marine Plan (each of which is supported by an Environmental Report and Habitats Regulations Assessment). Regard should also be given to Natural Resources Wales' emerging Area Statements (Marine and North-West Wales Areas), when published.

9.6. The following data sources may provide useful information on other projects for the assessment of cumulative effects:

- The Nationally Significant Infrastructure Projects register[34]
- The Developments of National Significance Register[35]
- Planning Policy e.g. Local Development Plans, Transport Plans (National and Local) and National Policy Statements.

9.7. The cumulative and in combination effects of shipping and navigation require consideration, in particular regarding shipping routes, and the proximity of other activity or proposed developments in the area.

9.8. Within the scoping report there is a lack of information relating to how cumulative impacts on birds will be assessed. The potential effect on regional and national populations from this project on its own and cumulatively with other projects will require consideration within the ES.

10. Conclusions

10.1. Chapter 10 of the scoping report states that "*the ES will document the magnitude of likely significant effects*". The ES must document the predicted significance of effects by considering the magnitude/extent/duration/etc and importance/sensitivity etc of each of the receptors.

10.2. As stated in section 3 of this scoping opinion, the 'screening' of how thoroughly impacts are assessed should not be done until baseline information on receptors have been collated and the scale/magnitude of effects from the project are understood. NRW PS is therefore not currently in a position to be able to advise on whether we agree with the summary of potential effects presented in Table 10.1 of the scoping report and the level of assessment that is proposed.

11. References

11.1. A complete reference list of the sources of information used in compiling the EIA must be provided in the ES.

[32] http://lle.gov.wales/apps/marineportal/
[33] http://lle.gov.wales/home
[34] https://infrastructure.planninginspectorate.gov.uk/projects/register-of-applications/
[35] http://gov.wales/docs/desh/publications/180312-dns-register-en.pdf

Yours sincerely

Shelley Vince
Marine Licensing Team
Natural Resources Wales

Cc: All Consultation Bodies

ANNEX 1 – MMO CONSENTING POWERS AND REQUIREMENTS

The MMO has consenting powers for section 36 ("s36 consent") of the Electricity Act 1989 (as amended) for Projects under 100MW in English and Welsh waters, as transferred under section 12 of the Marine and Coastal Access Act 2009 ("MCAA 2009"). As such, the MMO is responsible for consenting functions under section 36(1), (5) and (7) of the Electricity Act 1989 (as amended), for the construction, extension or operation of generating stations.
An applicant seeking a s36 consent may apply for a screening request under the Electricity Works (Environmental Impact Assessment) (England & Wales) Regulations 2017 ("EWR 2017").

The EWR 2000 apply in the case of any s36 application for consent to construct, extend or operate a generating station. However, the MMO will seek to discuss arrangements with Natural Resources Wales (NRW) and the applicant regarding the streamlining of the regulatory process.

The MMO has functions under section 95 of the Energy Act 2004 (as amended) ("EA 2004") with regards to declaration of safety zones around renewable energy generation stations. These functions were transferred under section 13 of the MCAA 2009. A safety zone application can be applied for at any time, however the MMO recommends that such an application is delayed to such a time that the device(s) to be deployed and their locations are known in more detail. However, the MMO advises that the intention to apply for safety zones should be considered as part of the wider application for a marine licence / s36 for consultees to understand the how the Project may impact upon them e.g. to allow local fishermen/mariners to understand if safety may be in place and what effect (if any) this may have on them.

Furthermore, we wish to inform you that to apply for s36A of the Electricity Act 1989 (s36A) declaration to extinguish rights to public navigation then this can only be applied for by the applicant at the same time as the s36 application.
The MMO wishes to make you aware of the specific advertising requirements under the EWR 2000 in accordance with regulation 14. Whilst this is may not be specifically relevant to the scoping opinion at this stage, the MMO wishes to point out whilst there is a requirement to advertise further/additional information under the EWRs 2017, there is no such requirement under The Marine Works (Environmental Impact Assessment) Regulations 2007 (MWR 2007). It is the MMO's view that there are two types of information which need to be considered during the application process under EWRs which is set out below;

Further Environmental Information – Regulation 25(1) outlines when the MMO must request further environmental information, either to supplement a deficient ES or where specific information required under the EWR 2000 has not been provided. Further information under 25(1) triggers the requirement for further advertisement in accordance with regulation 26 of EWR 2000.

Additional Information – Regulation 27 is concerned with the provision of additional information. Regulation 27(2) defines additional information as any information and representations (other than further environmental information) received by the relevant authority (the MMO) after the receipt of the ES and prior to determination that the relevant authority thinks is of material relevance to the contents of the ES. Additional information is required to be disseminated in accordance with regulation 27(1)

ANNEX 2: EUROPEAN PROTECTED SPECIES - LEGISLATIVE PROTECTION

In UK waters, European Protected Species are:

- • cetaceans (whales, dolphins and porpoises);
- • turtles; and
- • Atlantic Sturgeon (*Acipenser sturio).*

All European Protected Species and the places they use to rest and breed are legally protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) Regulations 2011 (the Habitats Regulations). The Habitats Regulations transpose the requirements of the Habitats Directive (Council Directive 92/43/EEC) into UK law, and the Offshore Marine Conservation (Natural Habitats &c) Regulations 2010 (Offshore Marine Regulations) extend this protection into offshore waters.

Under Regulation 41 of the Habitats Regulations: -
A person commits an offence if he or she:

- a) deliberately captures, injures or kills any wild animal of a European protected species;
- b) deliberately disturbs animals of any such species;
- c) deliberately takes or destroys the eggs of such an animal; or
- d) damages or destroys a breeding site or resting place of such an animal.

Disturbance of animals includes in particular any disturbance which is likely:
a) To impair their ability (i) to survive, breed or reproduce, or to rear or nurture their young, or,
(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b) to significantly affect the local distribution or abundance of the species to which they belong.

Under S.9(4)(b) and (c) the Wildlife and Countryside Act 1981 (as amended):-
A person commits an offence if he/she intentionally or recklessly

- disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- obstructs access to any such structure or place.

Where the legal protection afforded European protected species under the Habitats Regulations is likely to be compromised by a proposed development, the development may only proceed under a licence issued. Under Regulation 53(2) of the Habitats Regulations, licences may be issued for the purposes of:
'preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature, and beneficial consequences of primary importance for the environment.'
Furthermore, a licence can only be issued if the following two conditions are also met:

- That there is 'no satisfactory alternative' (Regulation 53(9)(a)), and that
- the development will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range' (Regulation 53(9)(b)).

In addition, Regulation 9(5) of the Habitats Regulations confirms that all competent authorities, in exercising any of their functions, must have regard to the provisions of the Habitats Directive so far they may be affected by the exercise of those functions.