ARUP

**Oriel Windfarm Ltd**

# Foreshore Licence Application for Site Investigation for Oriel Wind Farm, off Co Louth

## Responses by Oriel to Submissions Received in First Consultation

Reference:

Issue 1 | 7 April 2022

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 282833-00

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# 1. Introduction

This report presents the response of Oriel Windfarm Limited. (Oriel) to the observations of the prescribed bodies and the submissions from the public, which were received following the public consultation on the foreshore licence application for a geotechnical investigation and site surveys for the proposed Oriel Wind Farm, off the Co Louth coast.

The report has been prepared by Arup on behalf of Oriel with input by Oriel and Hartley Anderson Marine Environmental Consultancy. It provides the response to the submissions from the public and observations from the prescribed bodies received by the Department of Housing, Local Government and Heritage (the Department).

# 2. Background

## 2.1 Foreshore Licence Application

Oriel submitted an application to the Department for a foreshore licence to undertake a geotechnical investigation and site surveys for the proposed Oriel Wind Farm, to be located on the foreshore, of the coast of Dundalk, Co Louth. The application was submitted in November 2021. The Department's file reference is FS007383.

The Foreshore licence application area comprises the Oriel offshore wind farm area and the offshore cable corridor. The offshore wind farm area is located off the coast of County Louth to the east of Dundalk Bay, approximately 22km east of Dundalk, 18km east of Blackrock, 5km south of the Cooley Peninsula and 10km north-east of Dunany Point. The offshore wind farm area covers approximately 27.8km$^2$. The offshore cable corridor is approximately 11km in length and covers an area of approximately 25km$^2$. The proposed cable landfall is 700m south of Dunany Point, Co Louth.

The site investigation will include:

- Geophysical surveys
- Geotechnical and sediment sampling
- Environmental/ecological surveys and sampling
- Oceanographic and meteorological survey.

## 2.2 First Consultation on the Application

The application form and accompanying documents were made available for public inspection on the Department's website, at Louth County Council's Offices and at Dundalk Garda Station and members of the public had the opportunity to make a submission on the application from 15 December 2021 to 27 January 2022. Observations on the application were invited from a number of statutory bodies.

Oriel was invited by the Department to respond to the observations of the prescribed bodies and the submissions from the public. Oriel's responses are presented in this report.

# 3. Prescribed Bodies' Observations and Oriel's Response

## 3.1 Marine Survey Office

### 3.1.1 Observation

The Marine Survey Office (MSO) have nil obs for now but will still in due course receive the request for observations as part of the established Foreshore licence application process.

### 3.1.2 Response

Oriel notes the response of the Marine Survey Office.

## 3.2 Inland Fisheries Ireland

### 3.2.1 Observations

***General***

Inland Fisheries Ireland's (IFI) brief includes conservation of relevant fish species. Of relevance in the present case are resident and migratory species traversing the coastline and entering into the Dundalk Bay area - including Atlantic salmon, sea trout, sea and river lamprey and European eel. Also, the Dundalk Bay area is within the spawning and nursery grounds of Atlantic Cod, Haddock, and within the nursery grounds of Herring, Mackerel and Horse Mackerel. The area is also within the distribution range of several marine mammal species including Bottlenose, Atlantic White-sided and Risso's Dolphins.

***Pollution and Oil Spill Mitigation***

The Dundalk Bay SAC and RAMSAR fall very close Zone of Influence (ZoI), as noted in the Stage 1 Appropriate Assessment (AA) screening report. This report concluded that most activities associated with the proposed survey would not result in any likely significant effects, however, in the case of pollution from oil Spillage, likely significant effects could not be definitively ruled out as such likelihood is uncertain. It was concluded that a Stage 2 Appropriate Assessment was required to further assess the risks and to identify mitigation measures. The Stage 2 Appropriate Assessment noted that if suggested mitigation measured were adhered to that these concerned would be ameliorated (Section 3.4 of Stage 2 AA Report).

***Mitigation for Noise Impacts on Fish***

IFI would point out that the mitigation measures and guidance of NPWS in regard to marine mammals are not transferrable to fish species. The fish remain invisible to any shore- or boat-based observer. Mitigation measures should aim to reduce the sound generated, in intensity and duration. The use of soft-start and ramp-up procedures for any sound-generating surveys undertaken – both on a day-to-day basis and on re-start after any stoppages within any day should be undertaken. This measure should be a condition of the foreshore licence. The comments of IFI in this regard relate to fish species of conservation significance and of leisure angling significance all of which constitute part of IFI's brief.

***Potential Impacts on Resident and Migratory Fish***

Special consideration may need to be paid to resident and migratory fish species which could be passing through the area and potentially effected by sound and vibration effects introduced into the water column due to works. Also, the introduction of noise and vibration effects due to surveying and the release of suspended solids, chemicals, oils and other pollutants into the water column due to surveying would have to be mitigated against. This was the reasoning for a Stage 2 AA Report to be carried out, as the Stage 1 report could not state that the potential for oil spillage and pollution effects were mitigated against.

However, should the suggested mitigation measures in Section 3.4 of the Stage 2 AA Report be adhered to within the timeframe of the proposed surveys, these issues should have a far less likely possibility of occurrence.

***Impacts on Fish Spawning***

The fish species listed in Table 1 should be considered. The downstream (seaward) spawning migrations of the European Eel for example, occur in the autumn to spring months (starting as early as August in some catchments) and may intersect with the proposed work timeline. This could interfere with the natural migration of the eel.

| Fish Species | EU Status | Life stage | Timing in Harbour |
|---|---|---|---|
| Atlantic salmon | Habitats - Annex II | Adult upstream migration | All times of year: 'spring' fish; grilse run in June - July |
| | | Smolt downstream run | March - June |
| River lamprey | Habitats - Annex II | Upstream Adult spawning migration | Autumn - Winter |
| | | Seaward migration of young adults | Autumn - Winter |
| European Eel | EU Eel Action Plan | Upstream migration of elvers | Winter - Spring |
| | | Downstream of adult fish | Autumn – Spring |

In a marine context, the timing of the proposed surveying should be examined in regard to the spawning time and spawning area of commercially important fish species. Input from the Sea Fisheries Protection Authority (SFPA) should be sought here. Species of note would be sharks, such as tope and smoothhound. The ecological survey includes the use of sondes for fish and shellfish. It is not clear what kind of information will be gathered with this method. Important that any method tries to capture the use of this area by migratory fish species including but not limited to salmon, lamprey and eels.

***Guidelines on Protection of Fisheries during Construction Work in and Adjacent to Waters***

Finally, IFI refers to its guidance in relation to construction works adjacent to water (https://www.fisheriesireland.ie/sites/default/files/migrated/docman/2016/Guidelines%20Report%202016.pdf), (IFI, 2006) and would require that all relevant measures specified therein should be adhered to. The document covers a range of issues including management of materials hazardous to the aquatic environment such as cements, grouting, oils, fuels and other chemicals, along with management of suspended solids and excavated materials. IFI proposes that compliance with this document should be a condition of foreshore permission.

IFI (2006). Guidelines on protection of fisheries during construction work in and adjacent to waters. Inland Fisheries Ireland.

(https://www.fisheriesireland.ie/sites/default/files/migrated/docman/2016/Guidelines%20Report%202016.pdf).

### 3.2.2 Response

***Pollution and Oil Spill Mitigation***

Oriel confirms that the mitigation measures described in section 3.4 of the report *Supporting information for the Stage 2 Appropriate Assessment*, will be implemented in full. Oriel notes that all vessels engaged in the surveys must operate in compliance with the regulations of the International Convention for the Prevention of Pollution from Ships (MARPOL). In this respect Annexes I, IV and V of the MARPOL convention, which contain the regulations for the prevention of pollution by oil, the prevention of pollution by sewage from ships and the prevention of pollution by garbage from ships, must be implemented by the vessel operators.

***Mitigation for Noise Impacts on Fish***

The potential impacts of the surveys on fish were addressed in Section 3.3 of the report *Supporting information for the Stage 1 Screening for Appropriate Assessment* and in Section 8.2.3 of the *Non-statutory Environmental Report*, which concluded that, following implementation of the mitigation measures proposed, no likely significant effects on fish and shellfish are expected. Oriel confirms that soft-start and ramp-up procedures will be followed for any sound-generating surveys undertaken – both on a day-to-day basis and on re-start after any stoppages within any day.

***Potential Impacts on Resident and Migratory Fish***

The potential impacts of the surveys on fish were addressed in Section 3.3 of the report *Supporting information for the Stage 1 Screening for Appropriate Assessment* and in Section 8.2.3 of the *Non-statutory Environmental Report*, which concluded that, following implementation of the mitigation measures proposed, no likely significant effects on fish and shellfish are expected. Oriel confirms that the mitigation measures described in section 3.4 of the report *Supporting information for the Stage 2 Appropriate Assessment, will be implemented in full*.

***Impacts on Fish Spawning***

The purpose of the ecological surveys, which will be included in the site investigation, is to obtain up-to- date environmental data to enable the preparation of an Environmental Impact Assessment Report and a Natura Impact Statement for the wind farm development consent application. The potential impacts of the surveys on fish were addressed in Section 3.3 of the report *Supporting information for the Stage 1 Screening for Appropriate Assessment* and in Section 8.2.3 of the *Non-statutory Environmental Report*, which concluded that, following implementation of the mitigation measures proposed, no likely significant effects on fish and shellfish are expected.

***Guidelines on Protection of Fisheries during Construction Work in and Adjacent to Waters (IFI 2006)***

Oriel confirms that the site investigation will be undertaken in compliance with all relevant measures in the IFI guidance.

## 3.3 Development Applications Unit of the Department of Housing, Local Government and Heritage

### 3.3.1 National Parks and Wildlife Service Observation

Applying the precautionary principle and noting that the "there is potential for some behavioural disturbance of cetaceans in response to survey vessel noise" and that the area of potential disturbance will be highly localised i.e., within a few hundred metres radius. NPWS would suggest that application of "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters" for works that would occur in applicable geographical areas is appropriate and consistent with other licensing of this nature in the Foreshore.

### 3.3.2 Response

Oriel notes the observations of National Parks and Wildlife Service. As outlined in Section 7.2.2 of the Non-Statutory Environmental Report, which accompanied the application, Oriel confirms that the best practice guidelines, "Guidance to manage the risk to marine mammals from man-made sound sources in Irish waters" (DAHG 2014), will be implemented for the geophysical surveys and a qualified and experienced marine mammal observer (MMO) will be employed aboard the survey vessels during all multibeam, single beam, side-scan sonar and sub-bottom profiling.

### 3.3.3 Underwater Archaeology Unit Observations

***Historic Shipwrecks***

It is not clear to this Department that due consideration has been given to the high number of historically documented losses of ships which are recorded as having been wrecked in the development area but have yet to be located. In this regard, the Wreck Inventory of Ireland Database lists over 100 entries for the coastal waters off Louth, many of which are specifically noted as having been lost in the environs of Dunany point. The figure cited in the assessment (Section 5.5.5) of 18 wrecks in total identified from prior geophysical survey datasets and the Wreck Inventory of Ireland Database being situated within the survey area should be considered a minimum number and there are likely to be many additional examples within the application area. The high potential of the area to contain wrecks is amplified by the discovery of a historic ship timber which washed up on Dunany point and was reported to the Underwater Archaeology Unit in 2010.

It is noted that known wreck sites will be avoided and exclusion zones will be established around these sites. However, the possibility that some or all of the 14 geophysical anomalies identified during the 2007 survey within the offshore wind farm area (including W111145-W11157 and W11435) are additional wreck sites that also require buffer zones has not been resolved and it is thus essential that the data from the proposed geophysical surveys is assessed by a suitably qualified and experienced underwater archaeologist and the outcome of this furnished, with recommendations for mitigation measures, as part of an Underwater Archaeological Impact Assessment (see below) to the National Monuments Service in advance of geotechnical *investigations being undertaken.*

***Cultural Heritage Features at Dunany Point***

The proposed foreshore application area overlaps with the site of a promontory fort Recorded Monument LH019-002----, which is recorded by the Archaeological Survey of Ireland as follows ‘According to Stubbs (CLAJ 1921, 29) a fort known as 'the Dún' stood at Dunany Point but was destroyed by coastal erosion. No visible surface traces.’ Although the fort appears to have been lost to erosion there may be elements of it or secondary material/objects associated with it extant in the beach and inter-tidal areas and this eventuality requires inclusion in an archaeological impact assessment.

A significant cultural heritage feature known as ‘Cathaoir Ana’ or the ‘Mad Chair of Dunany’ is located in the inter tidal zone within the south-west corner of the proposed application area. Its precise position is recorded on historic Ordnance Survey maps. It is a boulder which has been naturally sculpted to resemble a chair and it is associated with a folk tradition that those who sat on it three times would be cured of mental illness. Conversely, those who were not mentally ill and sat on it might become mentally ill. The feature is an important part of Co Louth’s folk heritage and it is vital that it is adequately protected from any impacts, whether accidental or secondary, in the undertaking of any geotechnical and geophysical surveys.

***Recommended Conditions***

In light of the above it is recommended that the Foreshore Unit request the following as CONDITIONS of any grant of a foreshore licence:

- All geophysical survey activities shall be licenced by the Department of Housing, Local Government and Heritage under the National Monuments Acts 1930-2014 and should any dive surveys be required in connection with proposed geophysical surveys and archaeological surveys these shall also be licenced under the Acts and obtained by a suitably qualified archaeologist with underwater/marine experience. Any dive survey shall be accompanied by a hand-held detection survey which shall also be licenced under the National Monuments Acts 1930-2014.
- An Underwater Archaeological Impact Assessment of all proposed geotechnical works, including secondary impacts such as machinery movements, shall be prepared by a suitably qualified archaeologist with maritime and underwater experience.

All geophysical survey data sets available from previous work for the proposed development area and all newly obtained geophysical survey data sets shall be made available to the archaeologist and shall be incorporated into the assessment report. The assessment shall also include a desk study and a licenced wade/inter-tidal survey and licenced metal detection survey of the inter_tidal area and a walkover of the beach areas within the application area. The overall results of the assessment shall be compiled into a report and forwarded to the National Monuments Service for review and comment in advance of the geotechnical works taking place. The assessment shall also include proposals for the protection of the 'Mad Chair of Dunany' by institution of a minimum 10m buffer/exclusion area around the site during all works and for buffer/exclusion zones around all identified and potential wreck sites and other areas of archaeological potential. Similarly, the report shall include proposals for mitigation of potential impacts on archaeology, such as avoidance, dive surveys, monitoring or test-excavations. No geotechnical works shall be undertaken in advance of receipt of observations on the report from the National Monuments Service.

- All areas of the seabed where SI works will take place should be subject to a high resolution geophysical survey (ideally 50m line spacings) in advance of works taking with the results assessed by a suitably qualified archaeologist.

  Where archaeological assessment of geophysical data is not possible, or data is not available or of sufficient resolution/standard and an impact on the seafloor/inter _dal zone is expected, it is recommended that a dive/ inter tidal survey is carried out accompanied by a metal detection survey. Both the dive survey and the metal detection survey should be licenced under the National Monuments acts 1930- 2014.

- The results of all geotechnical works, including core samples and other geotechnical samples, shall be made available for assessment to the consultant archaeologist for review. Such assessment shall seek to identify any cultural material contained within the samples and evidence for palaeo-environments. A follow up Archaeological Report detailing the results of the assessment of geotechnical samples shall be forwarded to the National Monuments Service for review and consideration and to inform any future Foreshore/Planning application for the proposed offshore windfarm.

### 3.3.4 Responses

***Historic Shipwrecks***

Oriel confirms that the data from the proposed geophysical surveys will be assessed by a suitably qualified and experienced underwater archaeologist and the outcome of this assessment will be furnished, with recommendations for mitigation measures, as part of an Underwater Archaeological Impact Assessment (see below) to the National Monuments Service in advance of geotechnical investigations being undertaken.

***Cultural Heritage Features at Dunany Point***

The approximate location of RM LH019-002 is indicated as the red star in the Figure 1 below. The approximate location of the boulder known as Cathaoir Ana is indicated as the yellow star on the figure below. A screengrab from the Historic 6" Last Edition Ordnance Survey map is also included below, Figure 2.

Refer to the commitment outlined below in relation to Underwater Archaeological Impact Assessment.

**Figure 1 Dunany Point**

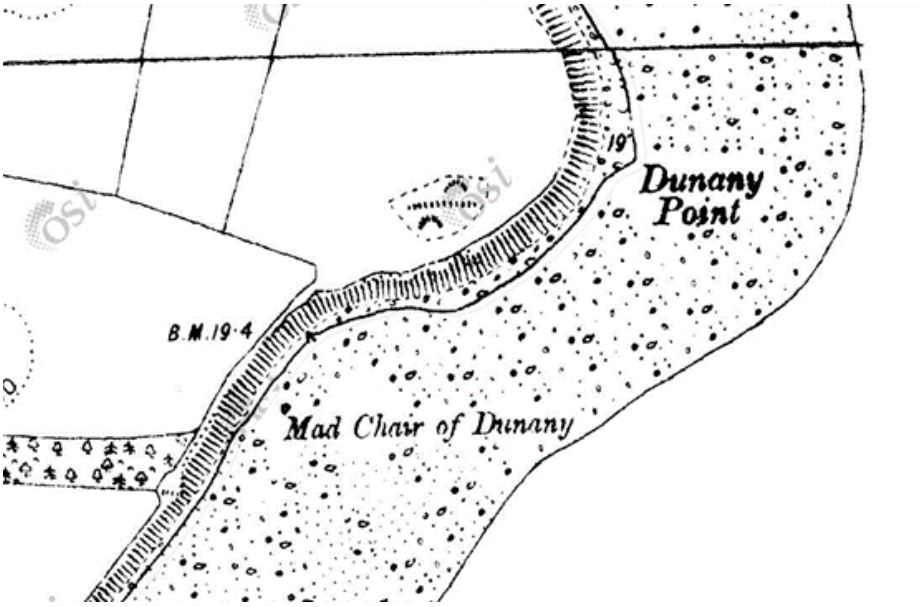


**Figure 2 Historic 6" Last Edition Ordnance Survey Map**

### *Recommended Conditions*

Oriel confirms acceptance of the conditions recommended by the Underwater Archaeology Unit. Oriel confirms that an Underwater Archaeological Impact Assessment of the geophysical survey data will be undertaken. The following archaeological mitigation is proposed:

- All geophysical survey activities will be undertaken under a licence issued by the Department of Housing, Local Government and Heritage under the National Monuments Acts 1930-2014. Should any dive surveys be required in connection with proposed geophysical surveys and archaeological surveys these will also be undertaken under licence which will be obtained by a suitably qualified archaeologist with underwater/marine experience. Any dive survey will be accompanied by a hand-held detection survey which will also be licensed under the National Monuments Acts 1930-2014.

- An Underwater Archaeological Impact Assessment of all proposed geotechnical works, including secondary impacts such as machinery movements, will be prepared by a suitably qualified archaeologist with maritime and underwater experience. All geophysical survey data sets available from previous work for the proposed development area and all newly obtained geophysical survey data sets will be made available to the archaeologist and will be incorporated into the assessment report. The assessment will also include a desk study, a licensed wade- survey and licensed metal detection survey of the inter-tidal area and a walkover of the beach areas within the application area. The overall results of the assessment will be compiled into a report and forwarded to the National Monuments Service for review and comment in advance of the geotechnical works taking place. The assessment will also include proposals for the protection of the 'Mad Chair of Dunany' by the establishment of a minimum 10m buffer/exclusion area around the site during all works. Buffer/exclusion zones will also be established around all identified and potential wreck sites and other areas of archaeological potential. Similarly, the report will include proposals for mitigation of potential impacts on archaeology, such as avoidance, dive surveys, monitoring or test-excavations. No geotechnical works will be undertaken in advance of receipt of the observations on the Underwater Archaeological Impact Assessment report from the National Monuments Service.

## 3.4 Louth County Council

### 3.4.1 Observation

In relation to above, the Planning Section, Louth County Council, has no specific comments in respect of the foreshore licence application, which is to facilitate detailed geotechnical and geophysical investigations, ecological surveys and metocean surveys, 22km off the coast of Dundalk. The planning authority will rely on the Department to consider potential effects on European Sites at this location and their in-combination effects on the European Sites in view of their conservation objectives and also any protected species as provided for in the Habitats Directive. The Department should also note that the Louth County Development Plan 2021-2027 is now in effect and Chapter 11 deals with the Environment, Natural Resources and The Coast.

### 3.4.2 Response

Oriel notes the observation of Louth County Council.

A Natura Impact Statement (NIS), "Foreshore Licence Application for Site Investigations for Oriel Wind Farm, off Co. Louth Supporting Information for the Stage 2 Appropriate Assessment", was submitted with the licence application. The conclusion of the Natura Impact Statement was as follows:

*"This NIS has examined and analysed, using the best scientific knowledge, the potential impact sources and pathways, how these could impact on the sites' Qualifying Interests and whether the predicted impacts would adversely affect the integrity of the European sites. Mitigation measures are identified (see Section 3.4) to ensure that any impacts on the conservation objectives of the European sites will be avoided during the proposed site investigations such that there will be no risk of adverse effects to them."*

## 3.5 Marine Institute

### 3.5.1 Observations

Oriel Windfarm Ltd submitted a foreshore application for site investigation works to be carried out in a defined area off the Co. Louth coast and along cable route corridors towards the coastline south of Dunany Point, Co. Louth.

In addition to the application form and a number of charts and maps the applicants submitted a number other documents including, inter alia:

- FS007383 Foreshore Licence Application for Marine Survey: Supporting Information
- FS007383 Foreshore Licence Application: Non-Statutory Environmental Report

- FS007383 Foreshore Licence Application: Supporting information for the Stage 1 Screening for Appropriate Assessment
- FS007383 Foreshore Licence Application: Supporting information for the Stage 2 Appropriate

***Assessment***

The overall aim of the site investigations is to collect the necessary data and information required to inform the engineering and detailed design of the cable route and proposed windfarm areas as well as identifying the wider ecological characteristics of the foreshore licence area. It is noted the installation of a windfarm and associated infrastructure in the area in the future would be the subject of a separate Foreshore Lease / Licence application and is not the subject of this current application.

A number of geophysical methodologies are proposed, including following acoustic-based techniques:

- Multibeam Echosounder (MBES) system for detailed bathymetric mapping;
- Side Scan Sonar for detailed seabed morphology and seafloor mapping;
- Magnetometer for detecting geomorphological anomalies and ferrous obstructions;
- Sub-bottom Profiling (SBP), both single and multi-sourcings, to identify and characterise the layers of sediment/rock underneath the seafloor along the cable route corridor;
- Ultra-high-resolution multi-channel seismic (UHRS) to identify and characterise the layers of sediment/rock underneath the seafloor within the windfarm site.
- Intertidal geophysical surveys including seismic, electrical resistivity and electromagnetic methods. Up to 10 static acoustic monitoring devices (SAM)

In addition, a number of geotechnical and ecological surveys are also proposed comprising the following methodologies:

- Metocean Survey
- Boreholes
- Vibrocoring/Gravity Coring
- Static Acoustic Monitoring of Cetaceans (CPODs)
- Water Quality Sondes
- Benthic and intertidal video, grabs and cores
- Fish and shellfish GPS Tracking

The proposed site investigation methods are relatively standard and have been used in similar investigations in Irish waters and internationally.

It is intended that the proposed survey works would be phased over a period of 3 years following award of licence and specific survey scope will range from 4 weeks to 2 years in duration.

There are no licenced aquaculture sites within the proposed site investigation area on the Foreshore and therefore impacts on aquaculture are not considered likely.

There is commercial fishing activity within the proposed site investigation area on the Foreshore and therefore, some interaction with fishing activity may occur. Notwithstanding this, it is noted that the applicant has appointed a Fisheries Liaison Officer who will engage with the fishing community and fisheries organisation in the area during investigations.

The AA Screening and the subsequent NIS identifies a number of risks to conservation features (e.g., Natura sites) likely to result from the proposed activity. As mitigation, a number of actions are suggested that should reduce the risk. Among these is the use of marine mammal observers (MMO) during operations including a 'soft start' protocol, notwithstanding the conclusion that impact on marine mammals was not considered sufficient to warrant consideration under Stage 2 (AA). The MI is satisfied that such measures will mitigate any risk to marine mammals in the immediate area during the site investigations. However, it is advised that DHLGH identify any similar geophysical/geotechnical surveys that might be carried out along the eastern seaboard and ensure that they not coincide with this survey in order to avoid potential cumulative displacement effects.

### 3.5.2 Response

Oriel notes the Marine Institute's observations.

Oriel refers to Section 3.3 of the NIS, which addressed potential in-combination effects. The effects considered included other potential geophysical/geotechnical surveys which might be carried out in the area. The conclusion of the in-combination effects assessment, in relation to other geophysical/geotechnical surveys, was as follows:

*"There is the potential for works associated with site investigations at Cooley Point, Braymore Point, Clogher Head and the North Irish Sea Array to take place within the schedule of works for this application, for example, as the licences granted provide a five year period within which to complete the works. In view of the similarity of the nature of the works between these applications, and the potential for in-combination effects, particular in relation to underwater noise, Oriel will maintain awareness of the scheduling associated with these other licences, and engage with the licence holders, as required.* ***However, in view of the low sound power levels of the acoustic equipment used in such surveys, which are spatially discrete, and of short duration, it is concluded that such surveys will not result in likely significant in-combination effects."*** (emphasis added)

## 3.6 Department of Agriculture, Food and the Marine

### 3.6.1 Observation

I refer to your request for comments/observations from this Department regarding this application by Oriel Windfarm Ltd.

***Proposed Condition***

Please include the following condition in any site investigation licence that issues:-

- Should a pollution incident occur, the applicant must contact SFPA Howth immediately so protective measure can be put in place to avoid potentially contaminated shellfish being placed on the market or food chain. The contact details are sfpahowth@sfpa.ie and direct contact is be made to both shellfish managers for the area, Declan Mac Gabhann 0879294673 and Philip West 0858708312.

***Aquaculture and Fisheries***

Please note the comments of this Department's Engineering Division and also BIM :-

- It is noted by the Department's Engineering Division, that there are increasing numbers of proposals for the Irish Sea and that as with those applications, appropriate monitoring and measures and best practice must be followed during the to ensure that the proposed survey works do not cause any direct or cumulative negative impacts on environmental sites, aquaculture and fishery harbour operations.
- Aquaculture clients of BIM are considering new offshore licences near Cooley Point which is closer to the Wind Farm investigation zone and this application could affect these going forward.
- From an inshore fisheries perspective there is substantial fishing effort for lobster, crab and razor clams in the area outlined for site investigation in this application. The potential impact of the survey methods on these species must be taken account by Oriel Windfarm Ltd.

BIM if aware of engagement by the applicant with a newly formed potting group, representing 13 vessels but we would suggest that the applicant engage and keep all fishers, aquaculture establishments, the NE Regional Inshore Fisheries Forum (RIFF) and the Carlingford Lough Co-ordinated Local Aquaculture Management Systems Group (CLAMS) informed of their activities on an on-going basis.

### 3.6.2 Response

***Proposed Condition***

Oriel notes the condition proposed by the Department and confirms that it will ensure that it and its contractors will comply with this requirement.

***Environmental Sites, Aquaculture and Fisheries***

Oriel notes that mitigation measures to ensure that there are no direct or cumulative impacts on Natura 2000 sites are described in Section 3.4 of the NIS, which accompanied the licence application.

The assessment of in-combination effects on Natura 2000 environmental sites, in Section 3.3 of the NIS, concluded that the other proposed surveys and shipping in the area were not likely to result in significant in-combination effects.

The Non-statutory Environmental Report, which accompanied the licence application, in Section 5.6.1.4 noted that there are no aquaculture sites in the survey area. The nearest licensed aquaculture sites are in Carlingford Lough. However, Oriel will check the register of licensed aquaculture sites, on the government website Aquaculture Sites - Datasets - data.gov.ie before the site investigations commence. If new sites are licensed in the area of the site investigation, Oriel will liaise with the operator.

The Non-statutory Environmental Report addressed the potential impacts of the proposed site investigation on commercial fishing, in Section 6.1.1. The mitigation measures proposed to minimise impacts on commercial fishing were described in Section 7.1.1. These include:

- Oriel has appointed a fisheries liaison officer, who engages with all relevant fishing organisations and holds meetings with the local fishing community to provide details of planned surveys, gather information on existing fishing activity in the area and determine the potential for interaction. Appropriate actions will be taken to avoid or minimise interactions with ongoing fishing activities in the area during the course of the surveys.
- The Sea Fisheries Protection Authority (SFPA) will be notified in advance of works so that small local fishing vessels can be informed of the works.
- Information regarding survey works will be communicated via Marine Notices, Radio Navigational Warnings, NAVTEX, and/or broadcast warnings in advance of and during survey works.
- Information will also be circulated to local ports, harbours and marinas in the area. The notices will include a description of the work being carried out.

The conclusion of the assessment of the impact on commercial fishing, in Section 8.1.1, was:

*"Following implementation of the mitigation measures proposed and given the scale and duration of the proposed survey works, as well as presence of extensive alternative fishing grounds available in the wider area, the effect on commercial fisheries will be confined to a small portion of the survey area at any one time and is expected to be negative, temporary, in the case of the survey vessels, short term in the case of the static equipment, and not significant."*

## 3.7 Department of Housing, Local Government and Heritage - Marine Advisor

### 3.7.1 Observations

***Project overview***

Oriel Windfarm Ltd have made a Foreshore Licence application to undertake detailed geotechnical, geophysical, ecological and metocean surveys, to enable detailed design of foundations and the detailed routing of the inter array and export cables associated with a proposed Offshore Windfarm. The Investigation works will also characterise the layers of sediment/rock underneath the seafloor, and to achieve a detailed seabed morphology and seafloor mapping. Oriel has applied for a licence with a duration of 36 month. It should be noted that this application if for the Site Investigation only and not the proposed Offshore Windfarm.

***Brief description of works***

The Foreshore licence application area comprises the Oriel offshore wind farm area and the offshore cable corridor. The offshore wind farm area is located off the coast of County Louth to the east of Dundalk Bay, approximately 22km east of Dundalk, 18km east of Blackrock, 5km south of the Cooley Peninsula and 10km north-east of Dunany Point.

The offshore wind farm area covers approximately 27.8km2 and is broadly hexagonal in shape with a length of approximately 5.3km west to east and 6.7 km north to south. The offshore cable corridor is approximately 11km in length and covers an area of approximately 25km2. The corridor is approximately 4km at its widest point, southwest of the offshore wind farm area, and narrows to approximately 1km at its narrowest point, just before landfall 700m south of Dunany Point.

The site investigations will include:

- Geophysical survey
- Geotechnical and sediment sampling
- Environmental/ecological surveys and sampling
- Oceanographic and meteorological survey

Further information on techniques and equipment of the SI are included in the Application Form and supporting documentation. The duration is anticipated to be in the order of 36 month, subject to an appropriate weather window. No interaction with other foreshore users is anticipated. Ove Arup & Partners Ireland Ltd are responsible for designing the works in accordance with the relevant standards and codes.

***Coastal Processes***

The proposed site investigation works will have no impact on the existing coastal processes. All foreshore is presumed state owned unless proven otherwise. In this case there are no known established claims of private ownership of the foreshore at this location. Subject to no claims of private ownership arising out of the application and public consultation process, the foreshore the subject of this application is state owned. Section 3 of the Foreshore Act applies for the proposed site investigation. The licence area for the proposed works is shown outlined on the following map submitted by the applicant:

- Map No: FL001 Rev F1 Date 2021-11-07 and entitled ‘Foreshore Licence Map’

The proposed area of foreshore associated with the works is 53.002km². The site investigation will have no permanent impact on other legitimate users or existing access arrangements. The applicant shall use that part of the foreshore, the subject matter of the application for the purposes as outlined in the application and for no other purposes whatsoever. Where relevant the foreshore and adjacent seashore area shall be restored to its natural state on completion of the works to the satisfaction of the Department of Housing, Local Government and Heritage.

### *Public Interest*

Section 2 and 3 of the 1933 Foreshore Act, as amended, states that a lease or licence of state foreshore may be granted "If, in the opinion of the Minister, it is in the public interest". As foreshore is a finite and valuable national resource and public amenity, it is important that each plan and project is fully assessed to ensure, that if consented to, it is a sustainable and proper use of that finite and valuable resource. Having considered and assessed the relevant issues associated with the proposed site investigation, while taking note that the state owned foreshore is finite resource which must be utilised sustainably, I am satisfied that the proposed works are in the Public Interest.

### *National Marine Planning Framework (NMPF)*

The National Marine Planning Framework (NMPF) is a national plan for Ireland's marine area including the Foreshore. It sets out, over a 20-year horizon, how we want to use, protect and enjoy our marine area. The NMPF sits at the top of the hierarchy of plans and sectoral policies for the marine area and provides a coherent framework in which those sectoral policies and objectives can be realised. All decisions on individual applications determined under the Foreshore Act, must secure and be consistent with the objectives of the plan, similar to the way that terrestrial plans form part of the decision-making tool-kit in the on-land planning process. NMPF objectives are supported by specific policies that articulate factors that can form part of objective consideration.

Having reviewed and assessed the information on file for this application to conduct an ORE Site Investigation against the objectives of the NMPF, I am satisfied the proposed works do not act significantly against any objective within the NMPF. Furthermore, the project is aligned and secures key sectoral/activity objectives including Energy – Offshore Renewable. Of particular relevance is ORE Policy 2 as this application relates to a 'Relevant Project' as designated under the Transition Protocol. Accordingly, I am satisfied that the ORE Site Investigation is aligned with and secures the objectives set out in the NMPF.

### *Conclusion/Recommendation*

I have no objection to the granting of a Foreshore Licence subject to the following conditions:

1. The Licensee shall use that part of the foreshore, the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.
2. The works shall be located as outlined on Map No: Map No: FL001 Rev F1 Date 2021-11-07 and entitled 'Foreshore Licence Map'.
3. The Licensee shall notify the Department of Housing, Local Government and Heritage at least 14 days in advance of the commencement of any works on the foreshore.
4. During the course of the works the Licensee shall ensure that existing public access arrangements are maintained, where possible, and all necessary precautions are put in place to protect the public in accordance with relevant Health and Safety Legislation.
5. At the end of each phase and/or calendar year, the Licensee shall inform the Department of the work completed to date and the works planned for the coming year.
6. The Licensee shall submit, to the Department, the 'as deployed' location for all monitoring devices.
7. On completion of the site investigation the Licensee shall ensure that all equipment and materials are removed and the foreshore is reinstated to its natural condition to the satisfaction of the Department of Housing, Local Government and Heritage.
8. The Licensee shall ensure that contractors, and their subcontractors, are made aware of all conditions and project specific requirements and they are required to have briefings on these to ensure all parties are fully aware of these requirements.

### 3.7.2 Response

Oriel notes the observation of the Marine Advisor. Oriel notes the conditions proposed by the Marine Advisor and confirms that it will ensure that it and its contractors will comply with the requirements.

## 3.8 Department of Housing, Local Government and Heritage - Marine Advisor - Environment

### 3.8.1 Observations

***General***

The offshore wind farm area is located off the coast of County Louth to the east of Dundalk Bay, approximately 22km east of Dundalk. While the site is not within a European site a number of them are within the Zone of Influence of the site investigation works. Two, Dundalk Bay SAC [IE000455] and Dundalk Bay SPA [IE004026] are in close proximity to the works. These sites are of importance for their coastal habitats and extensive sandflats and mudflats. This latter habitat hosts wintering waterfowl while the outer Dundalk Bay provides excellent shallow-water feeding ground for divers, grebes and sea duck.

***Assessment Process***

The Minister for Housing, Local Government and Heritage, is responsible for carrying out environmental screening and any environmental assessments determined as being required following screening, in accordance with the requirements set out in Directive 92/43/EEC (Habitats Directive), Directive 2009/147/EC (Birds Directive) and Directive 2011/92/EU, as amended by Directive 2014/52/EU (EIA Directive), in respect of applications under the Foreshore Act 1933, as amended. Outside of the Directives, the Minister is also required to consider environmental issues in respect of applications under the Foreshore Act 1933, as amended.

***Habitats Directive***

The Appropriate Assessment process (AA) is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site (Natura 2000 site). The focus of AA is targeted specifically on Natura 2000 sites and their conservation objectives.

Article 6(3) and 6(4) of the Habitats Directive place strict legal obligations on Member States to regulate the conditions under which development that has the potential to impact on European Sites can be proceed. It requires that an Appropriate Assessment be carried out of plans or projects, not directly connected with or necessary to the management of a site as a European Site, but which are likely to have a significant effect thereon, either individually or in combination with other plans or projects. An AA Screening assessment is carried out to determine whether a plan or project is likely to have a significant effect on a European Site.

- *Article 6.3 states that: "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*
- *Article 6.4 states: "if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

*Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."*

In giving effect to the above as a matter of Irish law, the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011, as amended) (**Birds and Natural Habitats Regulations**) provide as follows:-

Regulation 42(1) of the Birds and Natural Habitats Regulations states that:

> *"A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site".*

Regulation 42(2) provides that:

> *"A public authority shall carry out screening for Appropriate Assessment under paragraph (1) before consenting for a plan or project is given, or a decision to undertake or adopt a plan or project is taken".*

The Birds and Natural Habitats Regulations further provide as follows at Regulation 42 (6) and 42 (7):-

6. *The public authority shall determine that an Appropriate Assessment of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.*
7. *The public authority shall determine that an Appropriate Assessment of a plan or project is not required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it can be excluded on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.*

Furthermore, under section 42A (13) of S.I. No. 293 of 2021 an Appropriate Assessment, including the specified public consultation, must be carried out before the public authority makes a decision to undertake or adopt the proposed plan or project.

### *Risk Assessment for Annex IV Species*

Outside of designated Natura 2000 sites, the waters around Ireland's coast are a suitable habitat for a number of species listed under Annex IV of the Habitats Directive (92/43/EEC). Article 12 of the Habitats Directive affords strict protection to those species listed in Annex IV of the Directive wherever they occur. Where necessary a Risk Assessment for adverse effects of the proposed works on Annex IV species must be undertaken and a report produced. This assessment is separate to that undertaken under Article 6.3.

The purpose of the Risk Assessment is to examine the possibility that the proposed project, either individually or in combination with other plans and projects, may result in the deliberate disturbance or destruction of any of the species listed in Annex IV which may be present in the works area. The Risk Assessment should take into account the status (e.g. as indicated in the latest Article 17 reporting for Ireland, NPWS 2019) and sensitivities of relevant Annex IV species to potential impacts associated with the proposed project.

The **Risk Assessment for Annex IV Species** should be precise, with definite findings, mitigation and conclusions removing all reasonable scientific doubt as to the effects of the proposed project on any Annex IV species.

### *EIA Directive*

In Ireland, in accordance with Directive 2011/92/EU, as amended by Directive 2014/52/EU (hereafter, the EIA Directive), projects that are likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location must be subject to an EIA.

Article 4 of the EIA Directive requires that projects listed under Annex I must always have an EIA while projects listed under Annex II shall be subject to an EIA if (i) determined on a case-by-case basis or (ii) they exceed certain thresholds set by each Member State. Thresholds have been set for Annex II projects in Irish legislation. Projects which do not meet the threshold may still require an EIA if the project is likely to have significant effects on the environment. Annex I and Annex II projects have been transposed into Section 5 (Parts 1 and 2) of the Planning and Development Regulations 2001, as amended.

Section 13A(1)(b)(i) of The Foreshore Act 1933, as amended, requires that an EIA be carried out for all developments of a class specified in Part 1 or Part 2 of Schedule 5 of the Planning and Development Regulations where the development exceeds the relevant quantity, area or other limit specified in that Part, or where no quantity, area or other limit is specified. Section 13A(1)(b)(ii) of the Foreshore Act states that an EIA shall be carried out when a development is of a class specified in Part 2 of Schedule 5, but does not exceed the relevant threshold (i.e. sub-threshold) and the Minister determines that the proposed development would be likely to have significant effects on the environment. Therefore, it is necessary to examine such projects on a case-by case basis.

In the case of Annex II projects that are determined on a case-by-case basis, or sub-threshold, an EIA screening is required to determine if the project will have significant effects on the environment. Under Article 4(4) the developer (applicant) is required to submit information on the characteristics of the project and its likely significant effects on the environment. The developer may also provide a description of any features of the project and/or measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment. Subsequently, in accordance with Article 4(5), the Minister is required to make a determination, which shall be made public, that:

1. Where it is decided that an EIA is required, states the main reasons for requiring such assessment with reference to the relevant criteria listed in Annex III (Schedule 7 of the Planning & Development Regulations 2001) of the EIA Directive; or
2. Where it is decided that an EIA is not required, states the main reasons for not requiring such assessment with reference to the relevant criteria listed in Annex III of the EIA Directive, and, where proposed by the developer, states any features of the project and/or measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.

### *Non-statutory Environmental Report*

Where projects do not fall under a class that require an EIA or an EIA Screening, and in-keeping with good governance, a Non-statutory Environmental Report assessing the environmental effects of the proposed works on the receiving environment is required. This report will document the current state of the environment in the vicinity of the proposed activity in order to quantify the effects, if any on the environment, and if applicable to highlight how mitigation will be implemented to minimise impacts on the environment. The EPA Guidelines on the *Information to be contained in Environmental Impact Assessment Reports* (2017) indicates the relevant topics to be covered in this report.

### *Independent Environmental Consultants (IEC)*

Owing to the scale and complexity of the environmental assessment required, and taking account of the available resources within the Department, I recommend that Foreshore Section of DHLGH engage a suitable qualified IEC. The IEC must conduct an independent assessment of the information provided by the Applicant, having regard to the Habitats Directive, the Birds Directive, the Birds and Natural Habitats Regulations, the EIA Directive, Non-statutory Environmental Reports and relevant jurisprudence of the EU and Irish courts.

The IEC shall ensure that the Minister has all the environmental assessments required to allow them to make decisions on applications under The Foreshore Act 1933, as amended in accordance with the requirements set out in Directive 92/43/EEC (**Habitats Directive**), Directive 2009/147/EC (**Birds Directive**) and Directive 2011/92/EU, as amended by Directive 2014/52/EU (**EIA Directive**).

***Conclusion/Recommendation***

In principle I have no objections to this application. On completion of the Second Consultation and the work of the IEC, I will furnish my final report with determinations, which may include any case specific conditions will follow having regard to the information obtained during public participation.

#### 3.8.2 Response

Oriel notes the observation of the Marine Advisor – Environmental.

# 4. Public Submissions and Oriel's Response

## 4.1 Irish Whale and Dolphin Group

### 4.1.1 Submission

***General***

The Irish Whale and Dolphin Group (IWDG) was established in December 1990 and is an All-Ireland group "dedicated to the conservation and better understanding of cetaceans (whales, dolphins and porpoises) in Irish waters through study, education and interpretation". While the IWDG is primarily concerned with cetaceans we have broadened our comments to include all marine mammals.

IWDG welcomes the opportunity to comment on this foreshore licence.

***Ultra High Resolution Seismic (UHRS)***

Page 9- UHRS does not consider the use of airguns with lower frequency output. Furthermore the parameters given for boomers and sparkers do not cover the Applied Acoustics Squid 500/2000 and the Applied Acoustics S-Boom with a source level of 222dB. Nor does it cover the Huntec boomer with frequencies of 0.5 to 8 kHz. The exact impact of higher frequency sources remains largely unknown.

***Ultra Short Baseline (USBL) and Multibeam Systems***

Page 9- USBL. Most Kongsberg systems use frequencies between 21 and 31 kHz (see https://www.kongsberg.com/maritime/products/Acoustics-Positioning-and- Communication/acoustic-positioning-systems/hipap-models/). The Sonardyne Wideband Sub-Mini 6 Plus (WSM6+) and Sonardyne Type 8300 Compatt 6 operate and from 19 to 34 kHz (see https://www.sonardyne.com/wpcontent/uploads/2021/06/Sonardyne_8370_WSM6-1.pdf and https://www.strsubsea.com/uploads/Sonardyne-8300-3111-Compatt-6.pdf ). Therefore the stated frequencies of typical frequencies of 20 to 40 kHz should reflect the real numbers and the examples given of 19 to 34 kHz.

Page 35 Table 4.4. USBL source level should be considered to have a maximum source level of 206 dB re 1µPa@1m and not 200dB. See page 53 Kongsberg (2016) Product Description. Boomer or sparker comments as for page 9. Multi-beam systems lower than 70 kHz should not be allowed on surveys as these use higher source levels and may need appropriate review before used.

***High Resolution Geophysical Surveys***

Page 18. Suggests that disturbance of from HRGS (High Resolution Geophysical Surveys) would be limited to a few hundred metres from source for marine mammals. This is not what is suggested by a review document published by the JNCC (2020) which suggests a zone of disturbance of 5km.

***Low Frequency Baleen Whales***

Page 38 Table 4.3. Low Frequency baleen whales (Southall et al, 2019) should be included inconsideration of functional hearing groups as minke or humpback whales may be present in the site area.

***Mitigation Measures***

The document does not mention mitigation measures that will be employed during geophysical and geotechnical surveys. This is not compliant with requirements by the NPWS and DAHG (2014) guidelines.

As the assessment does not mention any mitigation measures that will be applied it should not proceed currently. The assessment should recognize the requirement for mitigation measures in the surveys suggested and must be included in the assessment.

### 4.1.2 Response

Oriel notes the submission of the Irish Whale and Dolphin Group.

***Ultra High Resolution Seismic (UHRS)***

Oriel confirms that an Airgun will not be used. Currently, the preferred geophysical survey contractor has proposed to use a GSO 180 Sparker with dominant frequencies listed as between 400 - 1800 Hz and 200-1000 joules energy. Specification sheets can be shared.

Sparker sub-bottom profilers (SBPs) generate sounds of similar characteristics to airguns, and therefore the evidence of effects relating to airguns can be applied to these sources with more confidence than others. While larger sparker SBPs operated at high energy may result in comparable source levels to a mini airgun, sparker SBPs generate energy at lower amplitudes than even small airgun arrays and consequently potential effects on marine species can be expected to be proportionally lower. Work to quantify the emitted sound fields from sparker SBPs is ongoing, but initial results support the assumption of a reduced potential of effects on marine mammals (Halvorsen & Heaney 2018, cited in the AA Screening document.).

***Ultra Short Baseline (USBL) and Multibeam Systems***

Oriel confirms that the typical frequencies of the USBL will be 19 to 34 kHz. This revision in frequency range is not considered to affect the conclusions of the assessment made in respect of effect on marine fauna. For the Sonardyne Type 8370-1111 beacon the source level under battery power is given as 184 dB re. 1 µPa @ 1 m which is less than the source level given and assessed in the AA Screening (~200dB re 1µPa @1m (peak)).

Oriel confirms that the currently proposed multibeam system uses 400-700 kHz, not the frequency range quoted in application (70-100kHz). Lower frequency "high power" MBES systems typically have source levels approximately 10 dB higher than systems operating at >100 kHz (Hildebrand, 2005).

Hildebrand, J. A. (2005). Impacts of anthropogenic sound. In: Reynolds JE, Perrin WF, Reeves RR, Montgomery S, Ragen TJ (eds) *Marine mammal research: conservation beyond crisis*. Baltimore: Johns Hopkins University Press pp 101-124.

***High Resolution Geophysical Surveys***

Various JNCC reports (e.g. 2020, 2021) repeat recommended effective deterrence ranges (EDRs) for harbour porpoises from noise from a range of activities. These are considered very conservative and do not necessarily reflect the latest evidence; for example, piling has a 26km EDR which was questioned by Graham et al. (2109) and Benhemma-Le Gall et al. (2021).

For HRGS, the JNCC reports recommend a 5km EDR in relation to the porpoise features of Special Areas of Conservation; this too does not correspond to the evidence presented by Halvorsen & Heaney (2018), cited and reflected in the AA Screening document.

Benhemma-Le Gall, A., Graham, I. M., Merchant, N. D. and Thompson, P. M. (2021). Broad-Scale Responses of Harbor Porpoises to Pile-Driving and Vessel Activities During Offshore Windfarm Construction. Front. Mar. Sci. 8: 664724 doi: 10.3389/fmars.2021.664724

Graham, I. M., Merchant, N. D., Farcas, A., Barton, T. R., Cheney, B., Bono, S., and Thompson, P. M. (2019). Harbour porpoise responses to pile-driving diminish over time. R. Soc. open sci. 6, 190335. http://dx.doi.org/10.1098/rsos.190335

JNCC (2020). Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland). JNCC Report No. 654, Joint Nature Conservation Committee, Peterborough, ISSN 0963-8091. https://data.jncc.gov.uk/data/2e60a9a0-4366-4971-9327-2bc409e09784/JNCC-Report-654-FINAL-WEB.pdf

JNCC (2021). Impulsive noise in the Southern North Sea SAC (2015 to 2020). Joint Nature Conservation Committee final report to Defra. http://sciencesearch.defra.gov.uk/Document.aspx?Document=15220_JNCC2021_NoiseHpSACs_JNCC-Final.pdf

***Low Frequency Baleen Whales***

Table 4.3 provides details of the relevant marine mammals (i.e., those which are qualifying interests of relevant sites) and auditory injury criteria to impulsive and non-impulsive noise by functional hearing group. No sites for baleen whales are within the zone of influence for the survey and thus they were not included in this table. However, baleen whales are considered in the assessment and their auditory injury criteria are included in Table 6.2.

***Mitigation Measures***

The mitigation measures to be implemented for marine mammals are described in Section 7.2.2 of the Non-statutory Environmental Report. Oriel confirms that the best practice guidelines, "*Guidance to manage the risk to marine mammals from man-made sound sources in Irish waters*" (DAHG 2014), will be implemented in full for the geophysical surveys and a qualified and experienced marine mammal observer (MMO) will be employed aboard the survey vessels during all multibeam, single beam, side-scan sonar and sub-bottom profiling.

The European Court of Justice has ruled, "in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site" (Case C-323/17.) Consequently, mitigation measures must not be included in Appropriate Assessment screening. This is the reason why there is no reference to compliance with the DAHG 2014 guidance in the report Supporting information for the Stage 1 Screening for Appropriate Assessment, which was submitted with the licence application.

## 4.2 The National Inshore Fishermen's Association (NIFA) and the National Inshore Fishermen's Organisation (NIFO)

### 4.2.1 Submission

With reference to planning application reference number FS007383, by Oriel Windfarm Limited, Digital Office Centre, Balheary Road, Swords, Co. Dublin, K67 E5A0, The National Inshore Fishermen's Association (NIFA) and the National Inshore Fishermen's Organisation (NIFO) wish to make the following joint submission.

### *Pre-Application Consultation*

Members inform of very limited or no pre application consultation, and as Organisations we only discovered detail of it having searched through the various consultations on the Gov.ie website. This coupled with the timing of the consultation, over the Christmas period, a time where inshore fishers typically take some time off, has made it difficult to put a considered response together or gauge the potential impact this project will have on members. Members that have raised, what we feel are valid concerns regarding this application.

### *Fishing Activity in the Area*

The area in question is important in general to Inshore Commercial fishing, primarily using towed gear mostly demersal trawling for prawns but also scallop dredging. For some of our members the area in question accounts for a significant amount of their economic activity. Their activity there is well established and traditional.

Members concerned operate small vessels, typically between seven and twelve meters in length, given the size of these vessels and the nature of fishing activity in the broader general area, operating elsewhere, to where the traditionally have done, is not realistically a viable option for them, even on short term basis.

### *Potential Disruption to Fishing Activities*

While we appreciate this application is for site investigation works, our members are concerned that these works will disrupt their fishing operations and this disruption will have a negative economic impact on them. The extent of that disturbance is still unknown and will likely vary between members. Given the density of fishing activity, both in this specific and adjacent areas and the nature of the survey work, disruption is highly likely, and may involve static gear operators having to move gear, to avoid damage or loss to it, in advance of the survey. Previous experience with similar applications has proved this to be the case. Our position is than any disruption should be kept to an absolute minimum. Given that avoiding this disruption completely is highly unlikely and given the principles of "avoid, minimise or mitigate" detailed in the National Marine Planning Framework (NMPF), we ask that consent to proceed be withheld until a Fisheries Management and Mitigation Strategy (FMMS) agreed with our relevant members. This FMMS needs to be designed to keep displacement of activity to an absolute minimum, but where displacement occurs and in turn has a negative impact on members working outside of the area, the FMMS and agreement needs to take these members into account also.

### *Potential Effects Following Completion of the Survey*

Again acknowledging that the application is for site investigation works, members have concerns that these works will have a negative effect that will be longer lasting than the juration of works. These concerns are based on previous experience for similar site investigation works off the East Coast. The above mentioned FMMS needs to take these concerns into account also.

In particular they are concerned about the effects of using a sub bottom acoustic profiler, in water as shallow as this will have on the shellfish population. In general the opinion of the Fishing industry is that offshore seismic survey work has a negative effect on catch rates for some time after a survey has been carried out in an area. While we acknowledge the intensity of the proposed acoustic work is far lower than that used for offshore oil and gas exploration, members are concerned that the fact that the water is much shallower in this area will mitigate against this. For members concerned, Shellfish fisheries are the most important fishery to them. Any negative effect on the shellfish stocks that support these fisheries in the short, medium or long term, could be economically detrimental to them. Again acknowledging that this application is only for site investigation work members are concerned with the unknown long term effects such developments may have particularly given the amount of interest in ORE development in the general area and the cumulative effects these potential developments will have combined.

### 4.2.2 Response

***Pre-Application Consultation***

Oriel has been in continuous engagement with local fishing organizations that represent commercial fishers that are active in the area over the past three years. These include, Clogherhead Fisherman's Association, Clogherhead Fisherman's Coop, Dunany Lobster and Crab Association, Anglo Northern Ireland Fisherman's Organisation (ANIFPO), and Northern Ireland Fisherman's Organisation (NIFPO). All fishermen that fish within the foreshore licence area are represented by one or other of these associations.

Oriel is aware of a small number of fishing vessels that operate from Kilkeel Harbour, that fish for prawn and scallop in the area adjacent and to the east and south of the Foreshore licence application area that are not members of one of the above organisations, Oriel's fisheries liaison officer has been in direct contact with a representative of these individuals.

All of these organisations were directly contacted by Oriel's Fisheries Liaison Officer in advance of the foreshore licence application submission. The public consultation for the licence application was open for a 6-week period from 15th December 2021 to the 27th of January 2022.

The Foreshore licence application was also advertised in local and national newspapers, all local councillors were informed, and the Public Participation Network issued a notice to a list of over 300 community groups in the area.

The Oriel project has been in development for over 15 years and there have been multiple and consistent public engagements and consultations on the project over this time period, including a 6-week public consultation held in February 2021 which received widespread media coverage at the time.

Oriel is committed to pursuing a coexistence agreement with the local fishing community and has established a Fisheries Fund to support the sustainability of the fishery in the area which is open to commercial fishing interests active in the area.

***Fishing Activity in the Area***

The location of the Oriel Wind Farm has taken account of the valuable prawn and scallop fishery in the area. This fishery is located within the soft mud sediments to the east and south of the foreshore licence application area. The location of this fishery was one of the constraints used in identifying a suitable location for the wind farm, which has been located on hard seabed sediments outside of this fishing area.

As outlined in Section 7 of the Non-Statutory Environmental Report, the presence of survey vessels and static equipment, and the exclusion zones around them, will may cause temporary loss or restrict access to fishing grounds for static fishing gear and will may temporarily displace fishing activity to other areas.

However, if a Foreshore Licence is granted, the Oriel will implement measures to ensure this displacement is kept to a minimum and that the effects on commercial fishing are not significant.

Oriel has appointed a fisheries liaison officer, who engages with all relevant fishing organisations and holds meetings with the local fishing community to provide details of planned surveys, gather information on existing fishing activity in the area and determine the potential for interaction. Appropriate actions will be taken to avoid or minimize interactions with ongoing fishing activities in the area during the course of the surveys.

In addition, the Sea Fisheries Protection Authority (SFPA) will be notified in advance of works so that small local fishing vessels can be informed of the works.

Information regarding survey works will be communicated via Marine Notices, Radio Navigational Warnings, NAVTEX, and/or broadcast warnings in advance of and during survey works. Information will also be circulated to local ports, harbours and marinas in the area. The notices will include a description of the work being carried out.

### *Potential Disruption to Fishing Activities*

The site investigation works will be designed to minimise disruption to fisheries operations and Oriel will undertake extensive engagement the local fishers through the fishing organisations prior to the commencement of all works as detailed in the response above. This engagement will seek to minimise the potential for displacement of fishing activities during the works.

### *Potential Effects Following Completion of the Survey*

Compared to marine mammals there is relatively limited evidence on the effects on underwater noise on seabed invertebrates. Seabed vibrations from anthropogenic activities such as geophysical surveys and piling may also induce a response. The blue mussel *Mytilus edulis* has been shown to respond to substrate-borne vibrations by partially or fully closure of their valve; depending on duration this may have consequences for their fitness (Roberts *et al*. 2015). In a similar experiment, the hermit crab *Pagurus bernhardus* responded behaviourally to substrate-borne vibrations (Roberts *et al.* 2016). From these studies however, extrapolations of effects in the wild are limited by the challenges of reproducing, controlling and measuring exposure level in small tanks, especially with respect to particle motion (Popper & Hawkins 2018). Various oil industry seismic and other geophysical surveys have been undertaken in shallow water areas around the UK (e.g., Poole Bay, Weymouth Bay, the Moray Firth) which have important shellfisheries (both crustacean and bivalve), none has been found to adversely affect the shellfish stocks.

Popper, A. N. & Hawkins, A. D. (2018). The importance of particle motion to fishes and invertebrates. Journal of the Acoustical Society of America 143: 470-488.

Roberts L., Cheesman S., Breithaupt T. & Elliot M. (2015). Sensitivity of the mussel *Mytilus edulis* to substrate-borne vibration in relation to anthropogenically generated noise. Marine Ecology Progress Series 538: 185-195.

Roberts L, Cheesman S., Elliot M. & Breithaupt T. (2016). Sensitivity of *Pagurus bernhardus* (L.) to substrate-borne vibration and anthropogenic noise. Journal of Experimental Marine Biology and Ecology 474: 185-194.