

# Dublin Array Offshore Wind Farm Project

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## **FS007188 Foreshore Licence Application for Site Investigation and Ecological Monitoring** *Response to Request for Further Information*

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## **1 INTRODUCTION**

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- 1.1 Arup with Hartley Anderson Limited have been commissioned by the Department of Housing, Local Government and Heritage (DHLGH) to conduct a Screening for Appropriate Assessment (AA) (stage 1 screening for the likelihood of significant effects on Natura 2000 sites), having regard to an application submitted by RWE Renewables Ireland Limited (RWE or 'the Applicant') for a Foreshore Licence. The purpose of the Foreshore Licence is to permit the completion of site investigation works and other associated surveys in relation to the proposed Dublin Array offshore wind farm development (Reference No. FS007188).
- 1.2 Arup have requested that before a Stage 2 assessment can be completed, the Applicant should provide details of representative survey equipment, and in particular, the range of operating frequencies of the SBP equipment likely to be used. Arup have also requested that the Applicant clarify whether a USBL system will be used and if so provide information to allow for a comprehensive assessment of all noise producing equipment to be made.
- 1.3 The following material is provided in response to the request for additional information.

## 2 GEOPHYSICAL SURVEY EQUIPMENT

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- 2.1 Details of the proposed geophysical survey equipment, including the operating frequencies and estimated sound levels, were provided in Table 2 of the Supporting Information Report and reproduced in Table 2 of the Report to Inform Appropriate Assessment Screening (Annex E of the application documents). Having engaged with likely survey contractors to confirm the likely range of equipment to be used in the site investigation, the details of the proposed geophysical survey equipment has been updated and is presented in Table 1 below. Details of the USBL system have been added. The types of equipment and the operating frequencies are within the ranges assessed in the Report to inform AA Screening and the Applicant's NIS (Annex E and Annex F of the application documents).
- 2.2 Engagement with the likely survey contractor has confirmed that a parametric SBP (pinger) is intended to be used during the geophysical survey, the Innomar Medium SES-2000 is indicative of this type of SBP. The screening assessment presented in Annex E of the application documents was based on the use of a sparker system, which has the greatest impact ranges of the types of SBP then under consideration. The assessment concluded that animals may be disturbed within a few hundred metres of the sound source. Whilst the source level of the parametric pinger system is higher than that of the sparker systems, the narrow beamwidth of the former results in significantly smaller impact ranges, with sound levels reducing to 120 dB SPLrms within a few metres of the sound source (CSA, 2020).
- 2.3 The type of USBL expected to be used is represented by the Kongsberg HiPAP model which operates at 21 – 31 kHz. This frequency range overlaps with the low-medium end of high frequency marine mammal species auditory bandwidth. USBLs are classed as non-impulsive sound sources which have a reduced risk of potential injury to marine mammals due to the relatively high thresholds required at which injurious effects would occur compared to impulsive noise (see Southall *et al.*, 2019 for the different thresholds between impulsive and non-impulsive noise). Additionally the utilisation and frequencies of USBLs result in short propagation distances.
- 2.4 Modelling of USBL equipment (all models including Kongsberg HiPAP) (CSA, 2020) demonstrated that sound levels are predicted to attenuate to 120 SPLrms within 50 metres of the source, which demonstrates the rapid attenuation of this equipment. It can therefore be concluded that any disturbance to marine mammals would be limited to the immediate vicinity of the vessel and any displacement would be contained within the area of disturbance resulting from the vessels presence. This conclusion is consistent with the findings of the Applicant's NIS that there is negligible risk of injury to marine mammals.
- 2.5 The final selection of survey equipment will not be made until the geophysical contractor has been appointed but the equipment used will be similar to the examples given and will operate within the frequencies and sound levels specified in Table 1 thereby providing certainty to the assessment process.

Table 1 The proposed equipment to be used for the geophysical surveys

Survey technique	Operating frequency (kHz)	Estimated sound level at 1m over frequency band 10 Hz to 10kHz	Typical length of towed equipment	Indicative Equipment Specification
Side-scan sonar (SSS)	300-500 (low) 500-900 (high)	228 Sound Pressure Level (dB re1μPaPeak)	<300 m from vessel	EdgeTech 4205
Multi-beam Echosounder (MBES)	190 -420	200-235 Sound Pressure Level (dB re1μPaPeak)	Hull- or Pole-mounted	RESON Seabat T50R
Magnetometer (MAG)	Passive <sup>1</sup>	Passive	300 m from vessel	Single G882 marine magnetometer
Sub Bottom Profiler (pinger)	85 - 115	244 Sound Pressure Level (dB re1μPa peak) 220 - 225 Source Level rms (dB re 1 μPa m)*	Hull- or Pole-mounted, or towed 150 m from vessel	Innomar Medium SES-2000
UHR Seismic Sparker	0.4 - 6	200-225 Sound Pressure Level (dB re1μPaPeak)	150 m from vessel	Geo-Source stacked dual 400
USBL	21 - 31 kHz	294 Sound Pressure Level (dB re1μPaPeak) 207 Source Level rms (dB re 1 μPa m)*	Vessel mounted transponder – receiver on towed equipment	Kongsberg HiPAP
Refraction	5-150Hz	230 Sound Pressure Level (dB re1μPaPeak)	50 - 100 m from vessel  A sensor string of length 100m to 235m will be laid on the seabed to record the response.	Seismic source, such as weight drop or vibrating pot.

\* CSA Ocean Sciences Inc. 2020 (CSA, 2020).

<sup>1</sup> Does not emit a signal

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### 3 CLARIFICATION OF APPLICANT'S RESPONSE TO PUBLIC CONSULTATION SUBMISSIONS

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#### Applicant's response to submission 12

- 3.1 The content of submission 12 was limited to the sentence "We would like to submit an objection to the above application on the basis of the proximity to the shoreline and the detrimental effect on the surrounding area, among several other factors."
- 3.2 No information was provided in the submission explaining the basis on which proximity to the shoreline was a concern. The Foreshore Licence application is for ecological monitoring and site investigation works required to inform the engineering and design of the offshore wind farm, the cable corridor to shore and associated infrastructure only. The proposed activities are being undertaken in close proximity to the shoreline as submarine electricity cables are required to connect to the existing national electricity transmission system on land.
- 3.3 In relation to potential detrimental effects, the application was accompanied by an Environmental Report (Annex C of the application) which assessed potential environmental effects and also included a range of environmental commitments to minimise or eliminate these effects (refer Summary of Mitigation Measures in Appendix A of the Environmental Report).
- 3.4 Any effects associated with these investigations will be limited in duration and spatial extent and will not therefore have detrimental effects on the surrounding area. The proposed survey activities are temporary in nature. The proposed wind farm itself will be the subject of a separate development consent application in due course in accordance with the requirements of the Maritime Area Planning Act, 2021 and its associated consent framework.

#### Clarifications to response to submission 3 from IWDG

- 3.5 In the submission from IWDG to the public consultation on the Foreshore Licence Application, FS007188 it was noted that if a USBL and HiPap system are to be used the sound characteristics should be included in the assessment. Details of the USBL system are presented in Table 1 above. An assessment of the likely effects of the use of the USBL, at the frequencies stated in Table 1, are provided in paragraphs 2.3 and 2.4 above, which concludes there is negligible risk of injury to marine mammals from the operation of this equipment.
- 3.6 The Innomar Medium SES-2000 is indicative of the type of SBP, the primary operating frequency of which is 100kHz as stated in paragraph 6.2.19 of the Report to Inform Appropriate Assessment Screening (Annex E of the application documents).
- 3.7 Specific examples of the geophysical survey equipment, representative of the types that will be used for the site investigation which is the subject of this Licence application have also been provided in Table 1. These are consistent with the information provided and assessed within the suite of documents provided in the application.

## **REFERENCES:**

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[1] CSA Ocean Sciences Inc. (2020). Application for Incidental Harassment Authorization for the Non-lethal Taking of Marine Mammals: Site Characterization Surveys Lease OCS-A 0486, 0517, 0487, 0500 and Associated Export Cable Routes.

[2] Southall, B., Finneran, J., Reichmuth, C., Nachtigall, P., Ketten, D., Bowles, A., Ellison, W., Nowacek, D., and Tyack, P., (2019) Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. Aquatic Mammals, Volume 45, Number 2, 2019.



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