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21 October 2026

IWDG comments on North Irish Sea Array Wind Farm FIR response

The Irish Whale and Dolphin Group

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 and other waters through increasing awareness, research, education, welfare activities and collaboration (see iwdg.ie).

The Irish Whale and Dolphin Group welcomes the opportunity to comment on Statkraft's response to the Further Information Request from An Coimisiún Pleanála in relation to the proposed North Irish Sea Array windfarm development.

We will restrict our comments to issues relevant to those raised by us in our submission of 9 August 2024 which was in response to the original Environmental Impacts Assessment Report. These were on the topics of underwater noise, in particular during construction piling, and the management of geophysical surveys and UXO clearance.

Suction Bucket Jackets

The IWDG greatly welcomes the decision to change the foundation design for Wind Turbine Generators (WTGs) from monopiles and jackets to Suction Bucket Jackets (SBJs). In so doing the developer has avoided impact piling, which is the technology with the greatest potential to cause auditory injury and disturbance to marine

mammals. This willingness to consider emerging technologies with reduced environmental impact is laudable.

Appendix A14.1 North Irish Sea Array: Underwater Noise Assessment references Weilgart (2023) as stating that SBJ installation noise “barely exceeds background levels” but unfortunately the Weilgart report does not provide a reference that statement, so there is no evidence to substantiate it. More detail is available from Koschinski & Lüdemann (2020), quoting measured average sound pressure levels at Borkum Riffkind 2 during suction operations as not differing from 137dB of background noise. This was limited by measuring in an already noisy construction environment, and Chudinska et al (2025) also found that increased vessel and ancillary operations contributed substantially to measured noise during suction bucket deployment.

Given that there is so little evidence of the specific noise outputs from SBJ installation, and no attempt has been made to model the potential impacts, if any, on marine species, there is a clear opportunity to fill that knowledge gap during construction at the NISA site. An array of calibrated hydrophones deployed at multiple jacket installations would gather vital empirical data to inform consenting for future deployments of this promising technology.

Drilling

The IWDG notes from Chapter 6 Description of the Proposed Development – Offshore, and other documents, that the intended foundation design for the Offshore Substation Platforms (OSPs) has changed from the monopiles originally proposed. Under the new design *“The topside will be supported by a SBJ or a jacket substructure on drilled pin pile foundations”*. However reference to Appendix A14.5 Marine Mammal Mitigation Protocol fails to reveal any intention to mitigate for the underwater noise from the drilling process. The Irish underwater noise guidance (DAHG 2014) is unambiguous in requiring mitigation for drilling, devoting Section 4.3.2 to the topic, and outlining protocols relating to the employment of a suitably qualified MMO, a 500m Monitored Zone, pre-start monitoring, managed breaks etc.

The proponent should amend the MMMP to reflect the current guidance, and agree to abide by whatever guidance is in force at the time of construction.

USBL

In response to RFI 10(i), USBL has been added to the geophysical equipment, which is welcome and appropriate. Section 6.2.3 of Appendix A14.5 MMMP references a study by Pace et al. (2021) which estimated source levels for a USBL device of 184dB re 1µPa₂ @1m (SPL_{rms}), and which exceeded TTS and PTS thresholds from Southall et al (2019) for continuous noise for both high frequency (HF) and very high frequency (VHF) cetaceans (Table 1).

Table 1: TTS and PTS thresholds for weighted CSEL listening groups and their respective exceedance ranges (Pace et al. 2021).

Weight	Threshold		Fitted range (m)		90%CI range (m)	
	TTS	PTS	TTS	PTS	TTS	PTS
LFC	179	199	N.A.	N.A.	9.8	N.A.
HF	178	198	2	N.A.	5.5	N.A.
VHF	153	173	332.8	7.2	502.2	16.9
PW	181	201	N.A.	N.A.	0	N.A.

The MMMP states “While there is potential for the USBL to be operated at a theoretical source level which exceeds the minimum threshold for instantaneous injury in harbour porpoise by up to 2dB, such noise levels are unlikely to be realised”, but does not offer any evidence for this. A more recent study by Mikaelson et al. (2025) contradicts this assumption while also referencing Pace et al. (2021):

“Analysis of individual survey vessel passes showed significant variation in impact ranges for the harbour porpoise behavioural reaction criterion (Lp_{rms}, 125ms, VHF=103 dB re 1µPa), ranging from ~1 km to ~5.5 km. These variations were observed from the same vessel (Northern Maria) which used a Kongsberg 502 USBL

system, the same make and model studied in Pace et al. (2021)". Also: "Whether the source level was set manually by an operator, or automatically adjusted by the USBL system is unknown. If the USBL pulses can be clearly detected by acoustic recorders at distances beyond 5 km, the received sound level at tow distance is guaranteed to be orders of magnitude above the background noise level" (Mikaelsen et al. 2025).

Thus uncertainty around source levels, impacted zones, and exceedance of TTS and PTS thresholds demonstrates the necessity to always include USBL along with other geophysical sources when assessing projects and deciding on mitigation protocols.

UXOs

In response to RFI 10 (a) the developer has committed to the use of Noise Abatement Systems (NAS) in the event that high-order Unexploded Ordnance (UXO) clearance is required. This is a practical and necessary mitigation for the use of explosives, and is supported by the IWDG, as is the appropriate use of Acoustic Deterrent Devices (ADDs) in this context. However, Appendix A14.5 MMMP does not consider Temporary Threshold Shift (TTS) in their assessment, referring instead to Appendix A14.4 Temporary Threshold Shift Position Statement (see comments below). The IWDG recommends that TTS ranges for high-order UXO clearance with and without the use of NAS be presented.

Temporary Threshold Shift Position Statement

In this statement, SMRU Consulting outline their arguments refuting the Irish guidance (DAHG, 2014) which interprets Irish and European legislation as meaning that TTS may be an injury.

In brief, they note that unlike Ireland, "most countries" do not consider TTS to be auditory injury; that not all TTS-inducing exposures lead to tissue damage; that the TTS impacts of pile driving on biological functions is currently considered to be limited; that onset thresholds are based on smallest measurable changes in hearing; that no biologically meaningful thresholds have been established, that

SEL_{cum} predictions are highly conservative; and that in the absence of evidence, it is appropriate to focus on PTS and behavioural disturbance.

The DAHG (2014) guidance summarises the State's interpretation of the law as follows: *"Under current legislation in Ireland, it is an offence to disturb or injure a marine mammal (see section 1.2) whether this occurs via introduced sound or another anthropogenic source. The induction of temporary or permanent tissue damage and a Temporary Threshold Shift in hearing sensitivity, which can have negative effects on the ability to use natural sounds (e.g., to communicate, navigate, locate prey) for a period of minutes, hours or days may constitute such an injury. It is therefore considered that anthropogenic sound sources with the potential to induce TTS in a receiving marine mammal contain the potential for both (a) disturbance, and (b) injury to the animal."*

In FIR 10(a), the Coimisiún states: *"The Wildlife Act 1976, as amended, lists marine mammals, including all dolphin, porpoise, seal and whale species as protected, (with subsequent regulations also applying protections to all species of marine turtles and basking sharks) stating that it is an offence to hunt, injure, or wilfully interfere with/destroy the resting or breeding place of such species. The January 2014 'Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources' published by the Department of Arts, Heritage and the Gaeltacht (NPWS (2014)), notes that sound sources with the potential to induce TTS in a receiving marine mammal has the potential to cause both disturbance and injury. This guidance has a statutory basis under Regulation 71 of SI No. 477 of 2011 and refers to the "offence to injure" under the Wildlife Act, 1976, noting that TTS "may constitute such an injury".*

In relation to the NISA project's response to the FIR, the inclusion of the TTS statement seems largely superfluous given the decision to use SBJs instead of piled foundations. It seems instead to be an attempt to influence the State's interpretation of Irish and European legislation, also appearing in the Codling Wind Park FIR response. In the course of making their arguments they illuminate the uncertainty around this area of study, something that cuts both ways; and lean heavily on the

outputs of their own expert elicitation, a process that can at best be described as educated guesswork by a selected group, generally used when hard evidence is lacking.

It is the IWDG's position that, at the time of writing, the biological significance at individual or population level of TTS on protected marine mammals has not been established. In that case there is no imperative to change Irish guidance to disregard TTS in assessment, unless to save ORE developers money. The Group fully supports the State's ambitions to decarbonise our energy systems through the development of offshore wind in Irish waters. We believe this can be achieved with minimal impact to marine mammals within existing interpretation of legal frameworks, with ongoing recognition and consideration of available and developing mitigation technologies such as NAS, and alternative foundation designs such as SBJ.

Yours faithfully



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