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STATUTORY ENVIRONMENTAL ASSESSMENT
EIA SCREENING DETERMINATION FOR VERMILLION INSPECTION/MAINTENANCE OF PIPELINE AND SUBSEA STRUCTURES 2021

RAMBOLL

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EIA SCREENING DETERMINATION FOR VERMILLION INSPECTION/MAINTENANCE OF PIPELINE AND SUBSEA STRUCTURES 2021

Project No.	**1620009502**
Issue No.	**4**
Date	**24/03/2021**
Made by	**Kim Moore**
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EXECUTIVE SUMMARY

Ramboll UK Limited (herein referred to as Ramboll) was commissioned by the Department of the Environment, Climate and Communications (herein referred to as DECC) to provide assistance with regards to the statutory assessment of an application by Vermillion Exploration & Production Ireland Ltd (referred to herein as the applicant) for an Environmental Impact Assessment (EIA) Screening Determination.

The applicant has submitted an application for consent to carry out an inspection of an offshore pipeline and subsea structures and associated repair / maintenance in the Corrib Gas Field using geophysical and visual survey techniques of the bulk of subsea marine infrastructure between Corrib Field and the landfall at Glengad. The proposed work scope comprises two main components:

- Offshore pipeline and subsea structure inspection and associated repair/maintenance work from the construction/ROV vessel *Edda Sun*. This vessel will be responsible for the survey and maintenance works covering the area of the Corrib offshore field assets as well as seabed infrastructure as far inshore as Broadhaven Bay. Some limited maintenance works will be undertaken where necessary to ensure pipeline integrity and stability on the seabed. This may include localised areas of seabed sediment dredging (using a mini-dredge tool) as well as the placement of rock filter bags onto the pipeline; and
- Nearshore pipeline inspection using the survey vessel *Leah-C*. This vessel is responsible for the survey covering the area primarily within Broadhaven Bay as far as the inshore limit of safe navigation.

The competent authority (DECC) is required to give consideration to the potential for likely significant effects of such activities on the environment, having regard to the EU Directive (2011/92/EU), as amended by Directive 2014/52/EU (herein referred to as "The EIA Directive") and relevant jurisprudence and guidelines.

This report provides a review of the EIA Screening Report prepared by RSK on behalf of the applicant and submitted with their application. Public consultation on the information provided by the applicant has been undertaken by the DECC. The consultation responses received by the DECC have been taken into consideration in the preparation of this report.

The report provides a conclusion that can be used by the DECC to issue an EIA screening determination. The information presented in the applicant's EIA screening report is considered to be complete and that no further information is required and provides adequate information to allow the DECC to issue an EIA screening determination.

Table ES.1 summarises the overall screening conclusion.

Table ES.1: Summary of screening assessment for projects listed on Annex II of the EIA Directive

Outcome of Screening Report Assessment	Overall Screening Opinion / EIA Required?
~~Likely Significant Effects on the Environment~~	~~**EIA required**~~
~~More information is required to inform decision~~	~~**Unknown if EIA is required – Request further information from the applicant**~~
No Likely Significant Effects on the Environment	**EIA not required**

1. INTRODUCTION

Ramboll UK Limited (herein referred to as Ramboll) has been commissioned by the Department of the Environment, Climate and Communications (herein referred to as DECC) to provide assistance with regards to the statutory assessment of an application by Vermillion Exploration & Production Ireland Ltd for an Environmental Impact Assessment Screening Determination, submitted in respect of an offshore pipeline and subsea structure inspection and associated repair / maintenance using geophysical and visual survey techniques.

1.1 Project Background

The proposed geophysical and visual surveys comprise two main parts:

- Offshore pipeline and subsea structure inspection and associated repair / maintenance work from the construction / ROV vessel *Edda Sun*. This vessel will be responsible for the survey and maintenance works covering the area of the Corrib offshore field assets as well as seabed infrastructure as far inshore as Broadhaven Bay. Some limited maintenance works will be undertaken where necessary to ensure pipeline integrity and stability on the seabed. This may include localised area of seabed sediment dredging (using a mini dredge tool) as well as the placement of rock filter bags onto the pipeline; and
- Nearshore pipeline inspection using the survey vessel *Leah-C*. This vessel will be responsible for the survey covering the area primarily within Broadhaven Bay as far as the inshore limit of safe navigation.

The offshore and nearshore elements of the work will investigate features such as free-spanning and scouring, pipeline burial depth and integrity as well as cathodic protection measures. The survey will be carried out using a combination of acoustic survey techniques (e.g. multibeam echo sounder, sub-bottom profiler, side-scan sonar). In addition, a visual survey using underwater video / camera imagery and ROV will be undertaken.

This report has been prepared as a statutory assessment of the activities proposed in the Vermillion Exploration & Production Ireland Ltd application and provides a conclusion that can be used by the DECC to issue an Environmental Impact Assessment screening determination.

1.2 Documents Reviewed

The following documents have been reviewed to inform this report:

- Corrib subsea infrastructure inspection, and maintenance surveys. EIA screening and environmental risk assessment for Annex IV species. Report prepared by RSK on behalf of Vermillion Exploration & Production Ireland Ltd. Project Number 660841. Dated 13 November 2020.
- Corrib subsea infrastructure inspection, and maintenance surveys. EIA screening and environmental risk assessment for Annex IV species. Report prepared by RSK on behalf of Vermillion Exploration & Production Ireland Ltd. Project Number 660841. Dated 12 January 2021;
- Corrib Field Subsea inspection & maintenance works 2021. Method Statement. Revision 01.
- Application to conduct an offshore survey form. Completed by Vermillion Exploration & Production Ireland Ltd.
- Notification of Application to Conduct Corrib Gas Field Offshore Works 2021. Submitted by Vermillion Exploration & Production Ireland Ltd.

This report has been prepared by competent experts with appropriate expertise in Environmental Impact Assessment.

2. TERMS OF REFERENCE

2.1 Legislative Context

This EIA screening assessment has been prepared in line with applicable European and Irish legislation and jurisprudence, including:

- EU Directive on assessment of the effects of certain public and private projects on the environment (Environmental Impact Assessment) Directive (2011/92/EU) and as amended by Directive 2014/52/EU;

2.2 Relevant Guidance

This report has been prepared having regard to guidance on EIA screening for planning authorities, published by the Department of Housing, Planning and Local Government (DHPLG) in 2018[1]. In addition, the structure and content of this report is based upon the methodology published by the European Commission in 2017[2].

2.3 Consultation

2.3.1 Prescribed Bodies

The following bodies were notified of the application:

- National Parks and Wildlife Service;
- Irish Maritime Administration, Department of Transport;
- Ship Source Pollution Prevention Unit Irish Maritime Administration, Department of Transport;
- Irish Coast Guard (& National Maritime Operations Centre), Department of Transport;
- Sea Fisheries Protection Authority;
- Sea Fisheries Policy Division, Department of Transport;
- Department of Defence;
- Mission Support Facility, Irish Air Corps;
- Naval Headquarters;
- Marine Institute; and
- Commissioners of Irish Lights.

Two responses were received as follows:

- Response from the Maritime Safety Policy Division of the Department of Transport dated 18 November 2020; and
- Response from the Aviation & Maritime Unit Executive Branch of the Department of Defence dated 23 November 2020.

The following observations were made:

- Prospective licensees and their employees and contractors are reminded that they should be aware of ship-source pollution prevention provisions which are in place to protect human health and the marine environment and apply to all shipping activity. These provisions are obligatory independently of particular licence terms and conditions. Under the MARPOL Convention and EU law as applicable in national law, ships may not cause pollution either by discharge to water or emissions to air, when at sea or when at berth in port. Ships include Floating Production and Offloading vessels (FPSOs) also called a "unit" or a "system", and

[1] https://www.housing.gov.ie/sites/default/files/publications/files/guidelines_for_planning_authorities_and_an_bord_pleanala_on_carrying_out_eia_-_august_2018.pdf
[2] http://ec.europa.eu/environment/archives/eia/eia-guidelines/g-screening-full-text.pdf

Floating Storage Units (FSUs). Ships berthed at terminals at sea are also obliged to conform to the law.

- Management of ship waste (mainly oil, hazardous and polluting substances, sewage, garbage and polluting emissions to air) and of all cargo residues must be ensured as required under international (IMO), EU and national law. Under existing provisions ships are obliged to discharge waste and cargo residues at port and ports are obliged to provide adequate facilities for their reception from ships.
- Once it has been confirmed, could you pass on the commencement and end date of the survey in addition to the name of the vessel carrying out the survey.

Appropriate regard has been given to the issues raised in these submissions, and relevant provisions are included in the mitigation and management commitments in Section 5 of this report.

Following receipt of additional information from the applicant, the DECC informed the notified bodies, as well as advertising a further consultation period on this information from 22 January 2021 to 05 February 2021. No additional responses were received from notified bodies.

2.3.2 Public Consultation

The application was advertised by the DECC on their website following receipt of the application on 18 November 2020. Invitations for submissions were advertised by DECC to be received by close of business on 20 December 2020 to ensure consideration by the Minister. No responses were received from the public in response to this consultation.

Following receipt of additional information from the applicant, the DECC advertised a further consultation period on this information from 22 January 2021 to 05 February 2021. No responses were received in response to this consultation.

3. PROJECT DETAILS

Table 3.1 provides a template for summarising information relating to a proposed project, when an EIA Screening Report for Seismic/ Geophysical survey is submitted for review.

Table 3.1: Application Details

Project Title:	Offshore pipeline and subsea structure inspection scheduled for 2021 to include repair and maintenance work where necessary and a near shore pipeline inspection at Corrib Offshore Pipeline and Umbilical system from the landfall valve site in Glengad Co. Mayo to the Corrib Wells.
Applicant:	Vermillion Exploration & Production Ireland Ltd
Exploration Licence Reference:	Corrib Petroleum Lease
Date EIA Screening Request Received (Respond within 90 days):	18 November 2020 with updated report following further information request on 15 January, 2021

Brief Project Description:

The proposed work scope will comprise two main components:

- Offshore pipeline and subsea structure inspection and associated repair / maintenance work from the construction / ROV vessel Edda Sun. This vessel will be responsible for the survey and maintenance works covering the area of the Corrib offshore field assets as well as seabed infrastructure as far inshore as Broadhaven Bay. Some limited maintenance works will be undertaken where necessary to ensure pipeline integrity and stability on the seabed. This may include localised areas of seabed sediment dredging (using a mini dredge tool) as well as the placement of rock filter bags onto the pipeline.
- Nearshore pipeline inspection using the survey vessel Leah-C. This vessel will be responsible for the survey covering the area primarily within Broadhaven Bay as far as the inshore limit of safe navigation.

The surveys of the pipeline, sections of umbilical, the BBGT treated surface water outfall pipeline and in-field subsea assets will investigate features such as free-spanning and scouring, and pipeline burial depth and integrity. The survey will be carried out using two vessels; the *Edda Sun* will survey the offshore sections, while the *Leah-C* will survey inshore in the vicinity of Broadhaven Bay. The survey will run between the Corrib Field along the overall extent of the route of the offshore pipeline and BBGT treated surface water discharge pipeline and the landfall at Glengad. In addition, sections of the offshore umbilical will also be inspected.

The survey will utilise a range of acoustic survey techniques, namely multibeam echo sounder (MBES), sub-bottom profiler (SBP), and side-scan sonar (SSS). In addition, a visual survey using vessel deployed underwater video/stills imagery (inshore) and ROV (offshore) will also be undertaken. A range of other sensors may also be used as part of the survey including: Sound Velocity Probes (SVPs) (used to calibrate acoustic survey equipment; pipe tracker, imaging sonar and Obstacle Avoidance Sonar; as well as navigation / positioning sensors including a subsea Ultra Short Baseline (USBL) beacon system, an altimeter, Inertial Navigation System (INS), Doppler Velocity Log (DVL), pathfinder laser profiler, Tracerco Discovery tool or ARTIMIS Halfwave tool and a STS 8" E Piranha Dredger. Details on the proposed equipment is provided below:

- MBES equipment will be hull mounted on the *Leah-C* for the inshore survey in the confined waters of Broadhaven Bay, while it is likely to be mounted to the ROV of the *Edda Sun* for the offshore survey. The preferred option for the MBES system onboard the *Leah-C* will operate between 350 kHz and 400 kHz. Alternative systems operate between 190 kHz to 420 kHz, with these typically operating between 350 kHz and 400 kHz. The bathymetric system onboard the ROV will operate at a frequency of 500 kHz.
- The SBP will only be used on the inshore component of the survey, deployed from the *Leah-C*. The preferred and alternative options of the SBP's operating frequency is between 3 kHz and 8 kHz.
- The SSS will only be used on the inshore component of the survey, deployed from the *Leah-C*. The preferred option of the SSS's operating frequency is between 300 kHz and 600 kHz. The

alternatives will operate between 400 kHz and 900 kHz. The obstacle avoidance sonar operating on the ROV of the *Edda Sun* will have a frequency of 675 kHz.

- A SVP will be deployed occasionally throughout the surveys to provide salinity, conductivity, temperature and sound velocity depth information. These probes operate at an extremely high frequency of around 2.5 MHz at a very low level of intensity. This allows periodic calibration of the primary acoustic survey sensors. The SVP will operate at a frequency of 2.5 MHz.
- Both vessels are likely to have single beam depth echosounders (operating at around 50 kHz) and ultra-short baseline acoustic profiling systems (USBL) for maintaining position and communications with any deployed equipment. The USBL system on the ROV of the *Edda Sun* will operate at a frequency at between 19 kHz to 34 kHz.
- The offshore vessel will also utilise a doppler velocity log (DVL) for accurate positioning and speed determination. This operates at an extremely high frequency of 1,200 kHz at a very low level of intensity.
- The ROV deployed from *Edda Sun* will be integrated with a laser and imaging system with stills and video camera for pipeline integrity and seabed inspection work.
- The Tracerco Discovery tool or ARTIMIS Halfwave tool will be used for checking pipeline wall thickness and integrity deployed from the ROV of the *Edda Sun.*
- The STS 8" E Piranha Dredger will be mounted to a standard STS dredge deployment frame and will be used where pipeline spans have been identified using the equipment described above. The mini dredger will undertake limited reprofiling of the seabed in those areas required to ensure full pipeline stability. The mini dredge tool will be deployed from the ROV of the *Edda Sun*. In addition to some limited dredging of the seabed sediments in the pipeline span locations, it may also be necessary to place rock filter units onto the pipeline as well to provide additional stability and scour protection. These placements will be limited in number and will use appropriately sourced rock.

A soft-start procedure for acoustic surveys will be implemented as per the NPWS "Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources in Irish Waters" (2014) for both the inshore and offshore surveys.

The *Edda Sun* will also undertake limited maintenance activities where required along the route of the pipeline route in the offshore survey area. These works will involve the placement of rock filler units as well as some dredging of seabed sediments using a mini dredge tool deployed from the survey vessels ROV. These works are to ensure pipeline integrity and stability on the seabed by correcting areas of free-spanning.

The determination of "offshore" and "inshore" areas for the purpose of this report has assumed a boundary at a water depth of approximately 20 m below Chart Datum, however, the location of this boundary may be refined closer to the time of survey. The *Edda Sun* would therefore be responsible for the survey of the subsea infrastructure between the Corrib Field to Broadhaven Bay, while *Leah-C* would limit its survey operations to within the Bay itself in depths of 20 m of less and would cover the section of the routes close to the landfall.

It is anticipated that the overall programme will be approximately 20 days in duration (dependent on weather conditions) with operations taking place for both vessels from the summer to autumn months of 2021 (between May and September). It is likely that the offshore and inshore elements will overlap during this time period. During data acquisition, the vessels will follow a pre-determined survey programme that may be subject to change depending on the prevailing current and wind conditions.

4. SCREENING CHECKLIST

4.1 Determining whether a Project should be subject to an EIA

Under Article 4(1) of the EU Directive on assessment of the effects of certain public and private projects on the environment (Environmental Impact Assessment) Directive (2011/92/EU), as amended by Directive (2014/52/EU) (herein referred to as 'the EIA Directive'), projects listed in Annex I of the EIA Directive shall be made subject to an Environmental Impact Assessment.

Under Article 4(2) of the EIA Directive, member states must determine whether projects listed in Annex II of the Directive shall be made subject to an EIA through either case-by-case examination and / or thresholds or criteria set by the member state.

Table 4.1 sets out the first step in determining whether a project requires an EIA under the EIA directive.

Table 4.1 Checklist – EIA Screening for Seismic/ Geophysical Survey or Exploratory Drilling Project

a) Is the project listed on Annex I of the EIA Directive? • If Yes, EIA is required for the project. • If No, EIA may be required for the project - Proceed to Section b)	No
b) If No - Is the project listed on Annex II of the EIA Directive? • If Yes, EIA may be required for the project - proceed to Sections 4.2 and 4.3. • If No, EIA is not required for the project.	No, however the applicant has requested an EIA Screening determination from the DECC and has provided the necessary supporting information.

4.2 Information to be provided by the Developer on the projects listed in Annex IIA of the EIA Directive

Under Article 4(4) of the EIA Directive, a minimum amount of information is required to be provided by the Developer on the characteristics of the project and its likely significant effects on the environment.

The checklist provided in this section (Table 4.2) confirms whether the screening report submitted for a project listed on Annex II of the EIA Directive provides the required information.

The developer is required by Article 4(4) to consider (where relevant) the available results of other relevant assessments on the effects of the environment carried out pursuant to other Union legislation other than the EIA Directive.

Table 4.2: 'Information to be provided' criteria, as set out in Annex IIA of the EIA Directive, meet the minimum requirements.

Does the request for screening determination provide sufficient information, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the minimum requirements:**
a) A description of the project including in particular: (a) A description of the physical characteristics of the whole project and, where relevant, the demolition works. (b) A description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected.	Yes	The applicant has provided an adequate description of the project. Detail of the vessels and equipment to be used, including a description and specific details such as emissions, frequency range, and mitigation (i.e. soft start). The aims and objectives of the survey are detailed and a list of the data to be collected is provided. Maintenance activities are also described along with justification for the use of certain works. The applicant has produced a chart of the entire project area and has shown this in relation to potentially sensitive receptors. The applicant has described the environmental baseline that encompasses all survey locations for the principal project assets (pipeline and umbilical; BBGT surface water discharge pipeline; and the in-field flowlines and umbilicals). The environmental baseline has been described in terms of the physical, biological (including Annex IV species); protected areas; and human/socio-economic environment. Environmental receptors that are or may be present in the location of the proposed survey works are described in a detailed manner. Table 2-2 of the Applicant's revised EIA Screening Report (dated January 2021) lists the protected areas and distance to the survey area at its closest point for 32 SACs, and 40 SPAs along the north-west Irish coast. Figure 2-1 shows those SAC and SPAs that are within 200 km to the proposed survey works and Figure 2-2 15 additional European sites in the wider part of the UK and ROI.
b) A description of the aspects of the environment likely to be significantly affected by the project.	Yes	The applicant describes the physical environment in the project area and surrounding region, covering bathymetry, waves and tidal regime, seawater quality, sediment characteristics, and climate conditions. The biological environment is also described, including benthic species and habitats, Annex IV species, other receptors (seals, otter, fish, seabirds), and protected areas. Particular focus is given to: Annex IV cetaceans, providing detail on species conservation status, occurrence and frequency of sightings in the region; and to protected sites, listing all sites where there is potential interaction between the project and designated features. The human environment covers fisheries and shipping in the greatest detail, and briefly covers

Does the request for screening determination provide sufficient information, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the minimum requirements:**
		cultural heritage and other users. The level of information provided here is sufficient.
c) A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from: (a) The expected residues and emissions and the production of waste, where relevant; (b) The use of natural resources, in particular soil, land, water and biodiversity.	Yes	The project description provided by the applicant details the emissions expected to be associated with the project works. This includes expected emissions into the atmosphere and emission of underwater sound. Detail is given for both survey vessels and for each of the preferred pieces of equipment, and several alternative pieces of equipment, for each vessel. The applicant also provides detail on the waste (waste discharges to sea; small quantities of solid waste generation and licenced disposal on shore; and accidental release events of fuels or chemicals). The applicant has described potential effects on the physical, biological and human environment, and has assessed whether or not these are likely to result in a significant effect.
d) The criteria of Annex III shall be taken into account, where relevant, when compiling the information in accordance with points 1 to 3.	N/A	The criteria in Annex III were taken into account when compiling the information referred to above. See Section 4.3 below for further details

4.3 Criteria to determine whether a project listed on Annex II of the EIA Directive is likely to have a Significant Effect on the Environment

Under Article 4(3) of the EIA Directive, when carrying out a case-by case assessment to determine whether a project listed in Annex II requires EIA, the competent authority must take into account the relevant selection criteria set out in Annex III of the Directive.

Annex III criteria is grouped into 3 main categories; 'characteristics of the projects', 'layout of the projects' and 'type and characteristics of the potential impact' of the projects.

The checklists provided in this section (Table 4.3 – 4.5) have been developed to allow the assessor to ascertain whether a screening report submitted for a project listed on Annex II of the EIA Directive meets the requirements for a screening opinion to be determined and determine whether the project is likely to have any significant effects on the environment.

4.3.1 Characteristics of Project

Table 4.3 summarises the consideration given by the applicant to the 'Characteristics of the Projects' in the screening report.

Table 4.3: 'Characteristics of the Project' criteria, as set out in Annex III of the EIA Regulations

Does the request for screening determination provide sufficient information, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the requirements:**
a) The size and design of the whole development;	Yes	The project is described in detail, including vessels, preferred and alternative equipment to be used, and any maintenance works that could be carried out. The project area is detailed, and a map is provided.
b) Cumulation with other existing or approved developments;	Yes	The applicant has considered cumulative impacts, arising through the pathways of underwater noise, physical disturbance and collision risk from presence of vessels and ROV, and standard vessel emissions and discharges. The other projects identified by the Applicant include the flexible flowline replacement works for the P6 wellhead at the Corrib field, the works to the Corrib Field central manifold / P1 wellsite (as part of the Channel B EDU and electrical jumper repair programme) and the Woodside Energy Ireland Pty Ltd geotechnical investigation of boreholes distributed across the Irish Atlantic margin. The applicant has not given a specific screening distance used for identifying other projects and developments. However, the applicant has included other projects that overlap with the project area and is "*broad enough to encompass typical foraging ranges and migratory routes for the primary receptor species*", which is considered sufficient.
c) The use of natural resources, particularly land, soil, water and biodiversity;	Yes	An adequate description of the use of natural resources (specifically fossil fuel for the survey vessels) has been provided by the applicant.
d) The production of waste;	Yes	The applicant has noted that small quantities of shipboard waste will be generated, and will be controlled appropriately and disposed of on shore. This description is adequate.
e) Pollution and nuisances;	Yes	The applicant has provided adequate detail on pollution and nuisances, including air and water pollution, and the emission of underwater noise.
f) The risk of major accidents and / or disasters, which are relevant to the project concerned (including those caused by climate change);	Yes	Accidents have been sufficiently considered in the scoping report, including leakage / spillage of fuel and hydraulic, and risks related to vessel operations at sea.

Does the request for screening determination provide sufficient information, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the requirements:**
g) Risks to human health (e.g. due to water contamination or air pollution).	Yes	The applicant has adequately described risks to human health, including those arising from operational accidents and leakage / spillage of chemicals. The project will use substances that could be harmful to human health (e.g. vessel fuel, lube oil and hydraulic fuels), however volumes of these will be minimised, and managed through a robust procedure.

4.3.2 Location of Project

The 'Location of Projects' Criteria, as set out in Annex III of the EIA Directive, considers the environmental sensitivity of geographical areas likely to be affected by projects with particular regard to the specified criteria.

Table 4.4 provides a template to determine whether a Screening Report submitted by an applicant for a project listed on Annex II of the EIA Directive, meets the requirements for the 'Location of the Projects' Annex III criteria, required for the assessor to determine an EIA Screening Opinion.

Table 4.4: Checklist to determine whether 'Location of the Projects' criteria, as set out in Annex III of the EIA Directive, meet the minimum requirements to determine a Screening Opinion.

The environmental sensitivity of geographical areas likely to be affected by the project are considered in the Screening Report, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the requirements for a screening opinion:**
a) The existing and approved land use;	Yes	The applicant has detailed other users of the project area that could be affected by the proposed works. The area of inspection is an area that has already been developed as part of the Corrib natural gas field, operated by Vermillion.
b) The relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the areas and its underground;	Yes	The applicant notes the presence of natural resources and their exploitation by other users (e.g. By commercial fisheries), and details measures that minimise risk to these resources (such as leakage / spill prevention, consultation etc.).

The environmental sensitivity of geographical areas likely to be affected by the project are considered in the Screening Report, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the requirements for a screening opinion:**
c) The absorption capacity of wetlands, riparian areas & river mouths;	Yes	The applicant has identified that pathways with wetlands, riparian areas and river mouths must be considered, however no interaction was identified as present.
d) The absorption capacity of coastal zones and marine areas;	Yes	The project is situated within the marine and coastal environment. The applicant has adequately described the baseline environment and highlighted potentially sensitive receptors. The applicant has determined that there is not likely to be a significant effect to any marine or coastal receptors identified.
e) The adsorption capacity of mountain and forest areas;	Yes	The applicant has identified that pathways with mountain and forest areas must be considered, however no interaction was identified as present.
f) The absorption capacity of nature reserves and parks;	Yes	Nature reserves, natural heritage areas, and national parks were not considered by the applicant as these areas are predominantly terrestrial and are geographically remote from the project area. The applicant has outlined nationally and internationally protected nature conservation sites that may interact with the project (see below). These are all located within the marine environment.
g) The absorption capacity of areas classified under national legislation (e.g. Natura 2000 area);	Yes	The applicant has sufficiently identified nature conservation designations (SACs, SPAs, Ramsar sites, and OSPAR MPAs) that may interact with the project area, including those with direct overlap and those with designated features that may forage within the project area.
h) The absorption capacity of areas in which there has already been a failure to meet the environmental quality standards, laid down by legislation and relevant to the development or in which it is considered that there is such a failure;	Yes	The applicant has confirmed there are no locations within the project are which are already subject to pollution or environmental damage (e.g. areas where environmental standards have been exceeded).

The environmental sensitivity of geographical areas likely to be affected by the project are considered in the Screening Report, with particular regard to:	**Yes / No**	**Briefly summarise whether the applicant meets the requirements for a screening opinion:**
i) The absorption capacity of densely populated areas;	Yes	The majority of the project is located within the offshore area. The applicant has considered densely populated areas and determined that there none that could be affected by the project.
j) The absorption capacity of landscapes and sites of historical, cultural or archaeological significance.	Yes	The presence of archaeologically significant features in the vicinity of the project is detailed sufficiently under Cultural Heritage Section 2.7.3. The applicant notes that the project area is an established pipeline, and no sites or items of cultural or archaeological significance were identified in the area pre- or during installation.

4.3.3 Type and characteristics of the Potential Impact

The 'type and characteristics of the potential impact' criteria, as set out in Annex III of the EIA Directive, consider whether a project is likely to have a significant effect on the environment. Likely significant effects are considered in relation to the criteria set out in Tables 4.3 and 4.4, with additional regard to the impact on the project factors specified in Article 3(1) of the EIA Directive: population and human health; biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; Land, soil, water, air and climate; material assets and cultural heritage and the landscape, in addition to the interaction between these factors.

Table 4.5 provides a template to determine whether a Screening Determination could be made in regard to the type and character of the potential impact of a project.

Table 4.5: Template to Determine Screening Opinion for Type and Character of the Potential Impact of a Project

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
Population and human health	**Physical presence of the survey vessel and equipment** The applicant notes that there is potential for interaction between the survey vessel and equipment and other users of the sea, such as offshore and coastal fisheries. Due to the short duration of the survey and the limited number of vessels (two in total), the impact is negligible. **Carbon dioxide and other greenhouse gas emissions into the atmosphere** Some greenhouse gases will be released into the atmosphere during the works, however the applicant has determined that these are not significant and will have minimal effect on climate change and human health.	The magnitude and spatial extent of the impact;	Yes – the extent and magnitude of the impact are adequately described as being contained within the project area and within the survey duration.	**Physical presence of the survey vessel and equipment** No – due to the localised area of effect and communications proposed, the applicant has determined that no significant effect is likely. **Carbon dioxide and other greenhouse gas emissions into the atmosphere** No – the applicant has determined that due to the relatively low volume of emissions, no significant effect on climate change or human health is likely. **Accidental leakage / spillage of fuel / hydraulic fluid** No – with appropriate measure in place, the applicant has determined that the likelihood of an
		The nature of the impact;	Yes the applicant has described potential interaction between the survey vessel and other users as collision or displacement effects.	
		The transboundary nature of the impact;	Yes – the applicant has determined that no transboundary effects will occur.	

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
	Accidental leakage / spillage of fuel / hydraulic fluid The applicant has described the possibility of accidental fuel spillage or leakage of hydraulic fluid during the project works. The protocols and procedures in place mean the event is very unlikely and the overall significance is minor (no likely significant effect)	The intensity and complexity of the impact;	Yes – the impact is adequately characterised.	accidental spillage / leaking is very low, and concludes no significant effect is likely.
		The probability of the impact;	Yes – the probability of vessel presence is certain, however the probability of impact is considered low.	
		The expected onset, duration, frequency and reversibility of the impact;	Yes – the onset, duration and frequency of the impact are described. The applicant has not commented on the reversibility of the impact, however due to the small extent and unlikeliness of occurrence, the assessment is considered appropriate.	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes – cumulative effects have been considered by the applicant. Given the short duration and the timing of the survey in relation to other projects, no cumulative effects are predicted.	

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
		The possibility of effectively reducing the impact.	Yes – the applicant has noted that communication with other users will assist with avoiding potential interactions or impacts; and that following protocol and procedure will reduce the risk of accidental fuel spillage.	
Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;	For assessment of impacts this assessment has primarily focused on Annex IV species and detailed consideration of impacts of sources of noise from the planned surveys, in particular impacts from the full range of geophysical equipment that will be in operation. All sources of sound have been described in detail, including the frequency and intensity, using equipment specifications and reliable sources. Other environmental effects, such as those arising from the use of the mini dredge, have also been considered. **Underwater acoustic impact of survey on Annex IV marine fauna (cetaceans and turtles)** The sensitivity of the identified receptors has been described in detail, including TTS and PTS	The magnitude and spatial extent of the impact;	Yes – the applicant has provided detail on the level of noise at various distances from the source and detailed underwater sound propagation, and has also detailed the physical impacts on the seabed from mini-dredger.	**Underwater acoustic impact of survey on Annex IV marine fauna (cetaceans and turtles)** No – the applicant has determined that, with the proposed mitigation and best practice, there will be no likely significant effect on Annex IV species as a results of the proposed works. **Underwater acoustic impact of survey on other designated species (seals, fish, seabirds, and indirect impacts on prey species)** No – the applicant has determined that, with the proposed mitigation and best practice, there will be no likely significant effect on other designated species as a result of the proposed works. **Overall noise from the survey vessels**
		The nature of the impact;	Yes – the nature of the impact has been described in detail.	
		The transboundary nature of the impact;	Yes – the applicant has determined that no transboundary effects will occur.	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
	thresholds, using reliable and appropriate reference sources. The assessment on cetaceans and turtles has been completed sufficiently. The applicant has considered all potential sources of noise and described the potential impacts in detail. Associated effects include disturbance and displacement (strong avoidance reaction), and agitation in cetaceans and turtles. Considering the thresholds of the receptors and the peak SPL and SEL, it is unlikely that injury would occur. **Underwater acoustic impact of survey on other designated species (seals, fish, seabirds, and indirect impacts on prey species)** The sensitivity of each of the receptor groups has been adequately characterised in the context of the SEL and SPL previously described. The applicant has considered impacts associated with all potential sources of underwater noise. The applicant has sufficiently considered collisions from foraging areas and impacts to prey species as well as direct effects of noise emissions. **Overall noise from the survey vessels** The applicant has identified that overall noise from the offshore vessel *Edda Sun* will be low frequency and detectable only by large cetaceans and pinnipeds (i.e., not dolphins), however noises from	The intensity and complexity of the impact;	Yes – the impact on Annex IV and other designated species has been thoroughly described. Impacts from the mini dredge tool have been characterised.	No – the relatively low intensity of noise and stationary nature of the operations will not result in significant disturbance to marine mammals or seabirds. **Operation of the mini-dredge tool** No – the limited spatial extent and duration will not result in significant disturbance to marine faunal receptors. **Use of the mini-dredge tool and placement of rock-filter units** No – habitat alteration, turbidity and smothering will occur over a very small spatial scale and will be a limited-frequency event. Increases in turbidity will be of a short duration. No significant effect is predicted. **Physical disturbance and Habitat loss– Pipeline mini dredge tool and rock-filter unit on all protected species/habitats** No - Small area to be dredged as a proportion of the entire survey area and so impact is extremely localised and short duration and volumes of sediment removed minimal.
		The probability of the impact;	Yes – the probability of injury occurring to Annex IV species is low, however disturbance effects are likely to occur for a short duration. This also applies to receptors potentially impacted by the mini dredge tool.	
		The expected onset, duration, frequency and reversibility of the impact;	Yes – the onset, duration and frequency have been adequately characterised. Although the reversibility has not been described in detail, most effects will be temporary and no likely significant effect has been determined, which is considered appropriate. The placement of rock on the seabed will be a permanent loss of	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
	the inshore vessel *Leah-C* will be detectable to a range of species . The low levels of intensity will attenuate quickly in the deep water to around 100 dB at 1 km. **Operation of the mini-dredge tool** The underwater dredge tool is likely to be audible to small cetaceans and fish, however, the works will be over a limited spatial scale and a short time period, and due to the small size of the tool, are considered to be of a low intensity. Significant disturbance to marine receptors is not expected. Entanglement with Annex IV species is unlikely to occur as the dredge tool will be connected to the hull or the ROV and the cable will be kept taut and vertical. **Use of the mini-dredge tool and placement of rock-filter units** Use of the tool and placement of filter units will result in a loss/alteration of the seabed as well as suspension of sediments into the water column. The effects will be highly localised and of limited frequency. An increase in turbidity and light smothering will occur for a short duration over a small spatial scale. Placement of rock filter units will cause a loss of benthic habitat and introduction of hard substrate, however, this will be over a very		existing habitat (but also maybe promote colonisation (potential benefit).	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes – other projects within the study area or within foraging distance of designated sites have been considered, due to the location and/or the timing of the projects, no significant cumulative effects are expected.	
		The possibility of effectively reducing the impact.	Yes – mitigation measures and best practice in use of the equipment and surveying will ensure that sensitive receptors are outside the area of effect with regards to underwater noise, and/or will give individuals opportunity to evacuate the area before harm is likely to occur. Mitigation is not proposed for use of the mini dredge tool.	

Factor (as specified in Article 3(1) of the EIA Directive)	Briefly summarise the environmental receptor / activity interactions considered:	Character of impact		Does applicant conclude a Significant Effect is likely? (Yes/No/ Unknown?)
		Description of character of impact	Does the screening report provide information on character of impact?	
	limited spatial extent and will reduce scour damage to neighbouring soft-sediment habitats. **Physical disturbance/displacement/habitat loss - All Survey Operations on protected areas** The applicant has considered all European designated areas (Ramsar, SAC and SPA) that have qualifying marine features (birds, fish and marine mammals) within 200km of the proposed works and used this distance as the maximum limit of foraging/migration range of these qualifying species. Exceptions for some species with longer ranges has been considered (e.g. Manx Shearwater). It has been assessed that only limited potential for disturbance from the short duration of survey activities.			
Land, soil, water, air and climate;	**Emissions of carbon dioxide and other greenhouse gases** The levels of CO_2 and other greenhouse gases emitted by the vessels are very low. Regular maintenance in line with MRS and MARPOL 73/78 will ensure emissions are minimised. **Vessel waste discharges** The applicant has noted that small quantities of shipboard waste will be generated, and will be	The magnitude and spatial extent of the impact; The nature of the impact; The transboundary	Yes – the applicant has appropriately described the small spatial scale and extent of the potential impacts. Yes – the effects have been characterised sufficiently. Yes – the applicant has determined that no	**Emissions of carbon dioxide and other greenhouse gases** No – due to the low emissions, and proper maintenance of vessels, the effects are not significant. **Vessel waste discharges** No – the applicant has determined that accidental spillage is very unlikely and all waste will be appropriately disposed of on land, and thus no likely

<table>
<tr><th rowspan="2">Factor (as specified in Article 3(1) of the EIA Directive)</th><th rowspan="2">Briefly summarise the environmental receptor / activity interactions considered:</th><th colspan="2">Character of impact</th><th rowspan="2">Does applicant conclude a Significant Effect is likely?
(Yes/No/ Unknown?)</th></tr>
<tr><th>Description of character of impact</th><th>Does the screening report provide information on character of impact?</th></tr>
<tr><td rowspan="7"></td><td rowspan="7">controlled appropriately and disposed of on shore and thus there is no interaction with the marine environment. Accidental spillage is very unlikely to occur with the procedures in place.

Leakage / spillage of fuel / hydraulic fluid
The applicant has noted the possibility of accidental fuel spillage or leakage of hydraulic fluid during the project works. The protocols and procedures in place mean the event is very unlikely and the overall significance is minor.

Use of the mini-dredge tool and placement of rock-filter units
Use of the tool and placement of rock-filter units will result in alteration of seabed habitat (introduction of hard substrate), a temporary increase in turbidity, and low levels of smothering. The effect will have a small spatial scale and will be highly localised.</td><td>nature of the impact;</td><td>transboundary effects will occur.</td><td rowspan="7">significant effect is concluded.

Leakage / spillage of fuel / hydraulic fluid
No – with the proposed procedures and maintenance in place, accidental spillage / leakage is highly unlikely. Overall significance is concluded is ‘minor’ (no likely significant effect).

Use of the mini-dredge tool and placement of rock-filter units
No – habitat alteration, turbidity and smothering will occur over a very small spatial scale and will be a limited-frequency event. Increases in turbidity will be of a short duration. No significant effect is predicted.</td></tr>
<tr><td>The intensity and complexity of the impact;</td><td>Yes – the impact has been characterised adequately.</td></tr>
<tr><td>The probability of the impact;</td><td>Yes – the likelihood of occurrence has been sufficiently described</td></tr>
<tr><td>The expected onset, duration, frequency and reversibility of the impact;</td><td>Yes – the onset, duration and frequency of the effects are limited to within the survey time period, and the impacts associated with the mini-dredge tool are temporary and reversible.</td></tr>
<tr><td>The cumulation of the impact with the impact of other existing or approved developments;</td><td>Yes – the applicant has adequately considered cumulative effects with other projects.</td></tr>
<tr><td>The possibility of effectively</td><td>Yes – proper vessel and equipment maintenance and on-board procedures</td></tr>
</table>

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
		reducing the impact.	in line with MRS and MARPOL 73/78, and other requirements where applicable, reduce the likelihood of waste/spillage to a minimum.	
Material assets, cultural heritage and the landscape	The applicant has adequately described the baseline environment in terms of cultural heritage and the Corrib assets. The works will take place along the route of a commissioned pipeline. The works will mostly take place offshore, however, will cover inshore as far as the inshore limits of safe navigation of the survey vessel (i.e., in waters no shallower approximately 2 m). During installation of the pipeline, no significant cultural heritage, archaeological, or landscape receptors were identified either within the Corrib Field or along the pipeline route. Therefore, there is no pathway for interaction with the proposed works and material assets, cultural heritage and the landscape.	The magnitude and spatial extent of the impact;	Yes – the works are limited to the immediate vicinity of the existing pipeline, landscape (i.e. coast) impacts have been ruled out.	No – The applicant has concluded that there is limited potential for interaction with the identified receptors, and as the minimum survey depth is 2 m, there will be no physical disturbance to sensitive terrestrial or intertidal habitats.
		The nature of the impact;	Yes – most important sites around the survey area are terrestrial in nature and do not overlap with the project area.	
		The transboundary nature of the impact;	Yes – the applicant has determined that no transboundary effects will occur.	
		The intensity and complexity of the impact;	Yes – there is no interaction between terrestrial, coastal, or intertidal habitats.	

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
		The probability of the impact;	Yes – landscape and coastal impacts have been ruled out and thus probability of impact is negligible.	
		The expected onset, duration, frequency and reversibility of the impact;	Yes – effects can only occur during the proposed survey period, for a short duration.	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes – other projects that may overlap with the proposed project have been considered sufficiently.	
		The possibility of effectively reducing the impact.	Yes – No mitigation measures are required.	
The interaction between the factors	The applicant has considered in-combination and cumulative impacts and the interaction between effects in the EIA Screening Report and associated Annex.	The magnitude and spatial extent of the impact;	Yes – the applicant has adequately described the small spatial extent of the impact. All impacts are predicted to be not	No – the applicant concludes that in-combination effects within the survey itself will be negligible. The applicant has also stated that interaction between the works at the Corrib field and other surveys in the area (i.e. other works within the Corrib field or

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
			significant. The spatial extent used for the impact is appropriate for the project and the ecological receptors.	the Woodside project) is unlikely to result in significant cumulative impacts on key receptors.
		The nature of the impact;	Yes – impacts are predicted to be short term and confined to within the proposed survey period. Potential temporal overlap with other projects has been discussed, and a determination of no significant effect has been made	
		The transboundary nature of the impact;	Yes – the applicant has determined that no transboundary effects will occur.	
		The intensity and complexity of the impact;	Yes – the potential impacts in-combination with other plans and projects have been adequately described.	
		The probability of the impact;	Yes – the impacts are expected to be localised and of short duration, and	

Factor (as specified in Article 3(1) of the EIA Directive)	**Briefly summarise the environmental receptor / activity interactions considered:**	**Character of impact**		**Does applicant conclude a Significant Effect is likely?** **(Yes/No/ Unknown?)**
		Description of character of impact	**Does the screening report provide information on character of impact?**	
			no significant effect is concluded.	
		The expected onset, duration, frequency and reversibility of the impact;	Yes – the impacts are expected to be of short duration and will only occur within the proposed works period. No significant effect has been concluded for all impacts.	
		The cumulation of the impact with the impact of other existing or approved developments;	Yes – other plans and projects that overlap with the proposed works and/or may impact the same receptors have been identified, and no significant effect has been concluded for all impacts.	
		The possibility of effectively reducing the impact.	Yes – mitigation measures have been described in detail for the proposed project. The timing of the project relevant to other plans and projects aid in reducing the impact.	

5. MITIGATION AND MANAGEMENT COMMITMENTS

The following table summarises the mitigation and management commitments made by the applicant in the documentation reviewed, along with additional measures required to address the issues raised in observations received from notified bodies following the consultation with notified bodies and the general public. Table 5.1 documents the commitments made and whether these would be considered industry standard practice or whether a condition is recommended to be included should permission be granted.

Table 5.1: Checklist to identify Mitigation Measures to be undertaken by the applicant.

Discipline	Mitigation Measure Proposed	Industry Standard	Project Specific
Physical Presence	The survey will be scheduled to minimise the duration of the *Leah-C* and *Edda Sun* at sea. Activities will be confined to as small an area as possible (i.e. directly over the pipeline and umbilical route, and other seabed assets being surveyed) to minimise acoustic and visual presence.		X
	With the potential exception of the side-scan sonar towfish on the inshore survey, acoustic survey equipment will be mounted directly on the hull of the *Leah-C*, or to the ROV of the *Edda Sun*, reducing the likelihood of interaction (such as entanglement) with Annex IV species.		X
	The camera system and rock filter units will be lowered to the seabed using a taut vertical cable, reducing the likelihood of interaction (such as entanglement) with Annex IV species.		X
Interactions with Other Sea Users	There will be a fisheries liaison procedures in place to mitigate interaction with fisheries, or other marine users. This includes liaison with relevant fisheries and other maritime organisations to communicate the survey schedule and enable activities to be planned accordingly.	X	
Atmospheric Emissions	Regular maintenance of all engines to minimise emissions in line with: • Maritime Registry of Shipping (MRS); • MARPOL 73/78 Annex VI (as appropriate); and • Any other similar requirements.	X	
Underwater Noise	The lowest equipment outputs will be used in order to obtain the required data quality.	X	
	At the start of the proposed activities, power will slowly increase from a low intensity (a "soft start") to encourage avoidance reactions by marine mammals, fish and marine reptiles.	X	
	A qualified and experienced Marine Mammal Observer (MMO) will be present onboard both the inshore and offshore geophysical survey vessels. The MMO will have undergone marine mammal observation training (JNCC or equivalent) and have spent a minimum of six weeks of marine mammal survey experience at sea over a three-year period.	X	
	The MMO must submit a report, as outlined in the NPWS code of practice, within 30 days of completion of the proposed activities to the relevant Licensing Authority and copy the report to the NPWS.	X	

	The geophysical vessel operators must provide a report (including a daily log) on the operation of the survey equipment that will indicate the soft starts and their duration to the MMO. This information will be made available to the relevant Licensing Authority and the NPWS.	X	
	The MMO must use a distance measuring stick, reticle telescope or binoculars to ascertain distances to marine mammals.	X	
	Vessel(s) working in or in the vicinity to Broadhaven Bay SAC will operate in accordance with the Vessel Code of Conduct for Inspection and Maintenance Surveys (Document No. COR-14-SH-0227, 2018). This document forms part of the Operators Environmental Management Plan (EMP) and details specific measures for vessel operators to avoid impacts on marine mammals (particularly small cetaceans).	X	
	Where at all possible when operating acoustic geophysical survey equipment as part of the surveys, the principles of the vessel Code of Conduct will be followed as a matter of good environmental practice. The vessel Code of Conduct describes measures to be taken regarding vessel speed and course changes, as well as the importance of maintaining a watch for animals to ensure that the potential for interactions with large species of marine fauna (including Annex IV species) is minimised.	X	
	An MMO will be present for keeping watch for marine fauna during daylight hours. They will advise the vessel crew of any animals that are sighted so that the appropriate actions can be taken.	X	
	Where at all possible when operating acoustic geophysical survey equipment, the *Leah-C* will work in an inshore to offshore direction, in an effort to retain an open aspect for animals to leave the confines of Broadhaven Bay, rather than animals wishing to increase their distance from the sound sources having to head further inshore.		X
	Sound producing activities will only commence in daylight hours, where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring, as determined by the MMO, is not possible the sound-producing activities shall be postponed until effective visual monitoring is possible.	X	
	Effective visual monitoring determines the presence or absence of megafaunal species before sound producing activities commence and should be undertaken in good weather conditions, where the sea state is low and visibility is good (no fog or heavy rain).	X	
	MMOs should survey the area for the presence of species 30 minutes before the onset of the soft start.	X	
	A minimum distance of 500 m is required between the centre of the sound source and the nearest species before soft start can commence.	X	
	If species seen within 500 m of the centre of the sound source the start of the sound source(s) should be delayed until they have moved away, allowing adequate time after	X	

	the last sighting for the animals to leave the area (30 minutes).		
	If species do not leave the area, it is recommended that the survey vessel alters course to ensure that the animals are outside of the 500 m exclusion zone when the soft start commences. This measure may not be implementable, as survey operations will be undertaken while the vessel is stationary with equipment deployed to the seabed at the Corrib Field.		X
	An agreed and clear on-site communication signal must be used between the MMO and Works Superintendent as to whether the relevant activity may or may not proceed, or resume following a break. It shall only proceed on positive confirmation with the MMO.	X	
	Soft start should commence after a 500 m area around the vessel has been confirmed clear of species for 30 minutes. It is not thought possible that soft start can be applied to the use of the mini-dredge tool.	X	

	Soft start procedure
	• In commencing an acoustic survey operation using the above equipment, the following soft start (or ramp up) must be used, including during any testing of acoustic sources, where the output peak sound pressure level from any source exceeds 170 dB re: 1 µPa @ 1 m:
	  • Where it is possible according to the operational parameters of the equipment concerned, the device's acoustic energy shall commence from a lower energy start up (i.e. a peak sound pressure level not exceeding 170 dB re: 1 µPa @ 1 m) and thereafter be allowed to gradually build up to the necessary maximum output over a period of 20 minutes.
	  • This controlled build-up of acoustic energy output shall occur in consistent stages to provide a steady and gradual increase over the ramp up period (e.g. output peak sound pressure level of 170 dB to 180 dB to 190 dB to 200 dB to 200+ dB over 20 minutes).
	  • Where the acoustic output measures outlined above are not possible according to the operational parameters of any such equipment, the device shall be switched "on" and "off" in a consistent sequential manner over a period of 20 minutes prior to commencement of the full necessary output.
	• In all cases where a ramp up procedure is employed the delay between the end of the ramp up and the necessary full output should be minimised to prevent unnecessary high level sound introduction into the environment.
	• Once the ramp up procedure commences, there is no requirement to halt or discontinue the procedure at night-time, nor if weather or visibility conditions deteriorate nor if species occur within a 500 m radial distance of the sound source, i.e. within the Monitored Zone.
		X	

	Break in sound output • If there is a break in sound output for a period of greater than 30 minutes (e.g. due to equipment failure, shut-	X	

	down, survey line or station change) then all pre-start monitoring and a subsequent ramp up procedure (where appropriate following pre-start monitoring) must be undertaken. • For higher output survey operations which have the potential to produce injurious levels of underwater sound as informed by the associated risk assessment, there is likely to be a regulatory requirement to adopt a shorter 5 to 10 minute break limit after which period all pre-start monitoring and a subsequent ramp up procedure (where appropriate following pre-start monitoring) shall recommence as for start-up.		
Discharges to the Sea	Management of discharges in accordance with the requirements of MARPOL 73/78 as appropriate, with the biochemical oxygen demand of sewage and galley waste discharges reduced to 50 mg/l and macerated to less than 25 mm using a treatment process before release.	X	
	All waste will be handled in accordance with the vessels waste management plan, which will operate in accordance with all national and international legislation/regulations and corporate guidelines.	X	
	The use of the mini-dredge tool for localised seabed reprofiling will result in some suspension of seabed sediments into the water column. This will only occur at those areas where free spanning of the pipeline requires this. Dedicated MMO and vessel crew on survey vessels will monitor and report immediately any interactions with Annex IV species that cause concern.		X
Archaeology	Not applicable since there are no features of archaeological significance present, based on the previous work undertaken by the applicant. However should any archaeological features be uncovered the relevant authorities should be informed.	X	
General	Dedicated MMO and vessel crew will monitor and report immediately any interactions with Annex IV species that cause concern.	X	
Accidental Releases	Refuelling of vessels will not be undertaken at sea, but in port where spills, although unlikely to happen, can be responded to more easily, and will reduce the risk of any exposure to marine life.		X
	The use of well-maintained and modern vessels, with modern navigational systems to identify / avoid obstacles.		X
	The vessels will operate with strict safety, navigational, operating and communications procedures in place in order to avoid collisions. These will include the use of Automatic Identification System (AIS) tracking, adherence to the Collision Regulations, communication with other vessels, and 24 hour look ahead plans.		X

	The fuel to be used by vessels is regular marine grade oil (MGO) and not heavy fuel oil (HFO) that could represent a greater environmental hazard if spilled.		X
	All fuels and chemicals aboard the survey vessels will be stored according to regulations and manufacturer's directions. Material Safety Data Sheets (MSDSs) for all chemicals stored onboard will be readily available. Procedures will be in place for dealing with spills and leaks.		X
	Vessel decks will have measures in place to contain fuel / lubricant / chemical leaks, such as bunding and oil / water separators. Spill response equipment will also be present on board vessels and personnel will be trained in its usage. Hydraulic fluids will be selected based on their environmental credentials (low toxicity and inherently biodegradable).		X
	The *Edda Sun* has a deck drainage containment and separation system in the event of a spill of oil on deck. Hydraulic fluids used by the ROV and ROV handling equipment have been selected partly based on their environmental credentials, being inherently rapidly biodegradable and having passed stringent LC 50 and EC 50 tests to determine their toxicity to aquatic life.		X
	Onboard the vessel, the valves between the fuel tanks will be kept closed, thereby minimising potential for complete fuel loss. Refuelling will occur according to a specific procedure.		X
	Maintenance, audits and inspection plans will be in place to mitigate the potential risk of an oil leak at an early stage.		X
	Shipboard Oil Pollution Emergency Plans (SOPEP), spill mitigation equipment and other facilities are kept onboard all vessels in order to contain or minimise spills, all vessel crews have been trained in the use of the plans and equipment.		X
	The Emergency Response Plan will set out how all spill response resources (personnel, command structure, equipment, etc.) will interface, including co-ordination between other seismic survey operators, if applicable.		X

6. CONCLUSIONS

Table 6.1 provides a summary of the review of the applicant's screening assessment.

Table 6.1: Conclusions of screening assessment, based on checklists provided in Table 4.3-4.5, for projects listed on Annex II of the EIA Directive

Summary of features of project and of its location indicating the need for EIA: The objective of the proposed geophysical survey is to survey the pipeline, sections of umbilical, the BBGT treated surface water outfall pipeline and in-field subsea assets to investigate features such as free-spanning and souring. The survey will be carried out using two vessels; the *Edda Sun* will survey the offshore sections, while the *Leah-C* will survey inshore in the vicinity of Broadhaven Bay. The survey will run between the Corrib Field along the overall extent of the route of the offshore pipeline and BBGT treated surface water discharge pipeline and the landfall at Glengad. In addition, sections of the offshore umbilical will also be inspected. The survey will utilise a range of acoustic survey techniques, namely multibeam echo sounder (MBES), sub-bottom profiler (SBP), and side-scan sonar (SSS). In addition, a visual survey using vessel deployed underwater video/stills imagery (inshore) and ROV (offshore) will also be undertaken. A range of other sensors may also be used as part of the survey including: Sound Velocity Probes (SVPs) (used to calibrate acoustic survey equipment; pipe tracker, imaging sonar and Obstacle Avoidance Sonar; as well as navigation / positioning sensors including a subsea Ultra Short Baseline (USBL) beacon system, an altimeter, Inertial Navigation System (INS), Doppler Velocity Log (DVL), pathfinder laser profiler, Tracerco Discovery tool or ARTIMIS Halfwave tool and a STS 8" E Piranha Dredger. It is anticipated that the overall programme will be approximately 20 days in duration (dependent on weather conditions) with operations taking place for both vessels from the summer to autumn months of 2021 (between May and September). It is likely that the offshore and inshore elements will overlap during this time period. During data acquisition, the vessels will follow a pre-determined survey programme that may be subject to change depending on the prevailing current and wind conditions.	
Do you agree with the applicant's screening assessment? If no, why?	Yes The Screening Report has been prepared on behalf of the applicant by competent experts. Given the nature, size and location of the proposed activities and the mitigation commitments made by the applicant, significant effects are not likely to occur on the environment either from this project alone or in combination with other plans or projects.
Is the project likely to have significant residual effects on the environment?	No Given the nature, size and location of the proposed activities and the mitigation commitments made by the applicant, likely significant effects are not predicted on the environment either from this project alone or in combination with other plans or projects.
Is EIA required? **(Yes / No / More Information Required?)**	**No** – EIA is not required.
What further information is required to inform decision (if any)?	No further information is required. The applicant has met all previous requests for further information.

Table 6.2: Summary of screening assessment for projects listed on Annex II of the EIA Directive

Outcome of Screening Report Assessment	Overall Screening Opinion / EIA Required?
~~Likely Significant Effects on the Environment~~	~~**EIA required**~~
~~More information is required to inform decision~~	~~**Unknown if EIA is required – Further information required from the applicant**~~

Outcome of Screening Report Assessment	**Overall Screening Opinion / EIA Required?**
No Likely Significant Effects on the Environment	**EIA not required**