An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

CORRIB FIELD: APPLICATION FOR APPROVAL TO CONDUCT AN INSPECTION AND MAINTENANCE SURVEY PROGRAMME OF THE CORRIB OFFSHORE GAS PIPELINE

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) SCREENING DETERMINATION

I. PROJECT PROPOSAL

Further to the petroleum lease granted to the Corrib Gas Partners pursuant to Section 13 of the Petroleum Act 1960 (**Corrib Petroleum Lease**), a number of additional consents have been granted in respect of the Corrib Gas Field development, the details of which can be found on the DECC website. The consents granted in respect of the Corrib Gas Field development include a consent to operate the Corrib Gas Pipeline, granted in December 2015 pursuant to Section 40 of the Gas Act 1976, which is subject to a number of conditions, including the following:-

> 20. *'Subsea facilities and flowlines will be subject to annual inspection to ensure that protection measures remain effective and any remedial measures necessary to provide additional protection will be undertaken as soon as practically possible. The first such inspection will be undertaken within the first month from the start of commercial gas production, when the flowlines are at maximum operating pressure and temperature'.*

By application dated 17th November 2020, submitted to the Department of the Environment, Climate and Communications, Vermillion Exploration and Production Ireland Ltd (VEPIL) (hereafter referred to as **Vermillion**) has sought Ministerial approval to conduct a geophysical and visual survey programme of the Corrib offshore gas pipeline, sections of the umbilical, Bellanaboy Bridge Gas Terminal (BBGT) treated surface water outfall pipeline, and infield flowlines and umbilicals between the Corrib Field manifold and the landfall at Glengad, northwest Co. Mayo, between the months of May and September 2021. In addition to the survey and inspection programme, a limited programme of maintenance works is also proposed to be undertaken to ensure seabed stability and, as a consequence, ensuring integrity of the pipeline and other infrastructure.

The proposed 2021 survey programme will include geophysical and visual inspection of the bulk of the Corrib subsea marine infrastructure between the Corrib Field and the landfall at Glengad and associated repair and maintenance activities.

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 offshore and nearshore elements of the work programme 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.

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.

II. DECC ASSESSMENT PROCESS

The Environment Advisory Unit (**EAU**), a functionally separate and independent unit of DECC is responsible for carrying out environmental screening and any environmental assessments determined as being required following screening, in accordance with the requirements set out in Directive 2011/92/EU, as amended by Directive 2014/52/EU (**EIA Directive**) and Directive 92/43/EEC, as amended, (**Habitats Directive**), in the context of applications within an existing petroleum lease (such as the present Vermillion application) that seek Ministerial approval to conduct a programme of survey, inspection and maintenance works in relation to an existing offshore gas pipeline and associated infrastructure.

EIA – In Ireland, environmental assessments of such applications are carried out by the EAU in accordance with the EIA Directive. Where the activities the subject of the application fall outside the projects listed in Annex I of the EIA Directive, an EIA Screening Assessment and Determination is carried out by the EAU in the first instance, as to whether the activities the subject of the application would, or would not, be likely to have significant effects on the environment by virtue, *inter alia*, of their nature size and location. Where it has been determined, following screening, that the activities the subject of the application, are likely to have significant effects on the environment, an environmental impact assessment is required.

AA / Habitats Assessments – The European Communities (Birds and Natural Habitats) Regulations 2011 – 15 (S.I. 477 of 2011, as amended) (**Birds and Natural Habitats Regulations**) give effect to the Habitats Directive as a matter of Irish law and require, inter alia, that a public authority carry out screening for Appropriate Assessment of a plan or project for which an application for consent is received. Where a public authority determines, following screening, that an Appropriate Assessment is required, the Birds and Natural Habitats Regulations require that the assessment carried out by a public authority include a determination pursuant to Article 6(3) of the Habitats Directive as to whether or not the plan or project would adversely affect the integrity of a European site. The EAU is responsible for carrying out Stage 1 AA screening assessments, and any Stage 2 Appropriate Assessment determined as being required following screening, in accordance with the Birds and Natural Habitats Regulations, in respect of applications, such as this one, to carry out a programme of survey, inspection and maintenance works in relation to an existing offshore gas pipeline and associated infrastructure.

On receipt of an application, the Geoscience Regulation Office (**GSRO**) – previously the Petroleum Affairs Division – in DECC places the application on the DECC website for public consultation and refers the application, and any associated responses to the consultation, to the EAU for the purposes of carrying out its environmental assessments.

On the completion of all environmental assessments by the EAU and after incorporating any suggested conditions which may be recommended by the EAU, the application will then be evaluated by the GSRO in the Department who will make a recommendation to the Minister regarding whether consent should be given for the activities applied for.

III. INDEPENDENT EXPERT ADVISORS

DECC has further engaged Ramboll UK Limited (herein referred to as **Ramboll**) as independent expert environmental advisors to provide advice to the EAU with regard to the carrying out of statutory environmental assessments of applications for permission to carry out works within an existing petroleum lease, such as the present application by Vermillion.

Ramboll has conducted an independent assessment of the information provided by Vermillion, by reference to the relevant selection criteria specified in Annex III of the EIA Directive. The expert report prepared by Ramboll, having carried out an external review of the EIA Screening and Environmental Risk Assessment Report that was prepared by RSK on behalf of Vermillion is shown at Appendix 1 ("**Ramboll Report**").

IV. ENVIRONMENTAL IMPACT ASSESSMENT SCREENING: LEGISLATIVE BACKGROUND

The EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU) requires that projects that are likely to have significant effects on the environment by virtue, *inter alia*, of their nature, size or location are made subject to an environmental impact assessment.

Under Article 4 of the EIA Directive, projects listed under Annex I are automatically subject to an environmental impact assessment and for projects listed in Annex II, Member States shall determine whether the project shall be subject to an assessment and can make the determination through either one of both (a) case by case examination or (b) thresholds set by the Member State.

Article 4(4) of the Directive requires in respect of projects listed in Annex II that the developer provide information on the characteristics of the project and its likely significant effects on the environment. The list of information to be provided is set out at Annex IIA; namely:

1. A description of the project, including in particular:

- *(a) a description of the physical characteristics of the whole project and, where relevant, of 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.*

2. A description of the aspects of the environment likely to be significantly affected by the project.

3. 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.

Annex IIA further provides that the criteria listed in Annex III of the Directive shall be taken into account, where relevant, when compiling the information required in 1 – 3 above.

Article 4(4) further provides that the developer may also provide a description of any features of the project and/or measures designed to avoid or prevent what might otherwise have been significant adverse effects on the environment.

The EIA Directive requires that when carrying out an EIA Screening Assessment, the relevant selection criteria as set out in Annex III shall be taken into account.

Article 4(6) of the EIA Directive requires that an EIA Screening Decision must be made as soon as possible and within a period not exceeding 90 days from the date on which the developer has submitted all the information required.

V. VERMILLION APPLICATION: ASSESSMENT PROCESS

Vermillion submitted the following documents with the application submitted in November 2020 (along with a cover letter):-

(i) Application to Conduct an Offshore Survey;
(ii) Corrib Subsea Infrastructure - Inspection and Maintenance Surveys EIA Screening and Environmental Risk Assessment for Annex IV species, dated November 2020 (prepared by RSK on behalf of Vermillion);
(iii) Corrib Subsea Infrastructure - Inspection and Maintenance Surveys 2021 Natura Impact Statement, dated November 2020 (prepared by RSK on behalf of Vermillion);
(iv) Corrib Field Subsea Inspection and Maintenance Works 2021 Method Statement, dated November 2020
(v) Notification of Application to Conduct Corrib Gas Field Offshore Works 2021.

V.1 Notified Bodies

The following bodies were notified of the application submitted by Vermillion in November 2020:

- 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;
- Commissioners of Irish Lights

Two responses were received as follows: Maritime Safety Policy Division, Irish Maritime Administration, Department of Transport; and Aviation and Maritime Unit, Executive Branch of the Department of Defence. The observations made in these responses received are shown in Section 2.3.1 of the Ramboll Report, referenced above and included at Appendix 1.

V.2 Public Consultation on Vermillion Application

The Vermillion application and accompanying documents were published on the Department website on 20th November 2020 and the public invited to make submissions thereon during a 30 day public consultation period ending on 20th December 2020. No responses were received from the public in response to the public consultation on the Vermillion application.

V.3 Further Information Requested and Supplemental Consultation

Having reviewed the Vermillion application and accompanying documents and the responses received from notified bodies, Ramboll recommended that further information be obtained from Vermillion in relation to their application on the basis that insufficient information had been provided with the application to enable an EIA Screening Assessment and Determination be made in respect of the proposed activities involved in the Vermillion application. Adopting that recommendation, specified additional information was sought by the EAU from Vermillion on 23 December 2020. The Department website was updated to reflect the position and all notified bodies were informed of the decision to request further information.

On 15 January 2021, Vermillion responded by submitting an updated EIA Screening and Environmental Risk Assessment for Annex IV Species Report, prepared by RSK, dated January 2021.

The adequacy of the information contained in the updated EIA Screening and Environmental Risk Assessment for Annex IV Species Report was assessed in conjunction with Ramboll, and on 22 January 2020, the updated Report was posted on the Department website for a supplemental public consultation on the additional information received in connection with the Vermillion application, which closed on 5 February 2021.

All notified bodies were also informed about the revised Report that had been received and were invited to make further observations on the supplemental information contained in that Report.

No responses were received from the public or notified bodies in relation to the updated Report.

VI. VERMILLION APPLICATION: EIA SCREENING ASSESSMENT AND DETERMINATION

In carrying out the EIA Screening Assessment of the Vermillion application in accordance with the Annex III criteria, I have carefully considered the information contained in the following documents:-

- Documents provided by the Applicant:
    - Application Letter to Conduct an Offshore Survey
    - Corrib Subsea Infrastructure Inspection and Maintenance Surveys EIA Screening and Environmental Risk Assessment for Annex IV species, dated November 2020 (prepared by RSK on behalf of Vermillion);
    - Corrib Subsea Infrastructure Inspection and Maintenance Surveys 2021 Natura Impact Statement, dated November 2020 (prepared by RSK on behalf of Vermillion);

    - Corrib Field Subsea Inspection and Maintenance Works 2021 Method Statement, dated November 2020;
    - Notification of Application to Conduct Corrib Gas Field Offshore Works 2021;
    - Corrib Subsea Infrastructure Inspection and Maintenance Surveys EIA Screening and Environmental Risk Assessment for Annex IV species, dated January 2021 (updated Report prepared by RSK on behalf of Vermillion in response to EAU request for additional information needed to carry out an EIA Screening Assessment).

- EIA Screening Determination for Vermillion Inspection/ Maintenance of Pipeline and Subsea Structures 2021 prepared by Ramboll (**Ramboll Report**, included at Appendix 1);

- Responses received from notified bodies: Maritime Safety Policy Division, Irish Maritime Administration, Department of Transport and Aviation and Maritime Unit, Executive Branch of the Department of Defence.

In carrying out an EIA Screening Assessment of the Vermillion application to determine whether the proposal to conduct a geophysical and visual survey programme of the Corrib offshore gas pipeline, sections of the umbilical, Bellanaboy Bridge Gas Terminal (BBGT) treated surface water outfall pipeline, and infield flowlines and umbilicals between the Corrib Field manifold and the landfall at Glengad, northwest Co. Mayo, to include repair and maintenance work as necessary, between the months of May and September 2021, would, or would not, be likely to have significant effects on the environment, it is necessary to have regard to, *inter alia*, the relevant selection criteria as outlined in Annex III of the EIA Directive.

As evidenced in the Ramboll Report, when carrying out their assessment of the proposed survey, inspection and maintenance programme as described in the Vermillion application, Ramboll considered the different project elements by reference to the Annex III criteria.

In this context the following elements were considered:

- **Characteristics of the Project**, with particular regard to size and design of the development, cumulation with other existing or approved developments, use of natural resources (particularly land, soil, water and biodiversity), production of waste, pollution and nuisances, risk of major accidents and/or disasters relevant to the project including climate change, risks to human health (section 4.3.1 of Ramboll Report).

- **Location of the Project**, with particular regard to: existing and approved land use, relative abundance, availability and regenerative capacity of natural resources in the area, absorption capacity of wetlands, riparian areas and river mouths, absorption capacity of the natural environment (paying particular attention to coastal zones and marine areas, nature reserves and parks, areas classified or protected under national legislation, areas where there has been a failure to meet environmental quality standards or in which it is considered there is such a failure, landscapes and sites of historical, cultural or archaeological significance) (section 4.3.2 of Ramboll Report).

- **Types and characteristics of potential impact** of the proposed inspection and maintenance surveys with regard to the impact on the factors specified in Article 3(1) of the EIA Directive, taking into account: the magnitude and spatial extent of the impact, the nature of the impact, the transboundary nature of the impact, the intensity and complexity of the impact, the probability of the impact, the expected onset, duration, frequency and reversibility of the impact, the cumulation of the impact with the impact of other existing and/or approved

projects and the possibility of effectively reducing the impact (section 4.3.3 of Ramboll Report).

Based on careful consideration of the above referenced documentation by reference to the Annex III criteria:

- I agree with and adopt the conclusions reached in the Ramboll Report (at Appendix 1) regarding the adequacy of the information provided by the Applicant and accordingly am satisfied that Vermillion has provided sufficient information to enable an EIA Screening Assessment of the proposed geophysical and visual survey programme of the Corrib offshore gas pipeline, sections of the umbilical, Bellanaboy Bridge Gas Terminal (BBGT) treated surface water outfall pipeline, and infield flowlines and umbilicals between the Corrib Field manifold and the landfall at Glengad, northwest Co. Mayo, to include repair and maintenance work as necessary, between the months of May and September 2021..

- I further agree with and adopt the Ramboll responses to the submissions received from Notified Bodies: Maritime Safety Policy Division, Irish Maritime Administration, Department of Transport; and Aviation and Maritime Unit, Executive Branch of the Department of Defence , set out in section 2.3.1 of the Ramboll Report.

- The EIA Screening and Environmental Risk Assessment for Annex IV Species Reports submitted by Vermillion (original report submitted with the application and updated report submitted January 2021) were prepared by RSK (as competent experts) on its behalf. The EIA screening assessment carried out by RSK in respect of the survey, inspection and maintenance programme proposed in the Vermillion application (as set out in the updated RSK Report) reaches an overall conclusion that an Environmental Impact Assessment would not be required in respect of the proposed activities. A key element of the RSK assessment and conclusion was the detailed mitigation commitments made by Vermillion to avoid or reduce potential impacts on the environment / Annex IV species, contained in sections 6 and 7 of the RSK report.

- I agree with and adopt the EIA Screening Assessment carried out by Ramboll in respect of the proposed works involved in the Vermillion application. At Section 4 of the Ramboll Report, Ramboll carry out an assessment of the information provided by Vermillion in relation to the proposed survey, inspection and maintenance activities by reference to the Annex III criteria. Section 5 of the Ramboll Report goes on to set out in detail the mitigation and management commitments made by Vermillion to avoid or reduce any potential impacts on the environment, along with additional measures required to address issues raised in observations received from notified bodies in response to the application. At Section 6 of the Ramboll Report, Ramboll conclude that they agree with the EIA Screening Assessment carried out by RSK on behalf of Vermillion and that, 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

Accordingly, having adopted the Ramboll Report and the conclusions reached in that Report, I am satisfied and have decided that the application by Vermillion to conduct a geophysical and visual survey programme of the Corrib offshore gas pipeline, sections of the umbilical, Bellanaboy Bridge Gas Terminal (BBGT) treated surface water outfall pipeline, and infield flowlines and umbilicals between the Corrib Field manifold and the landfall at Glengad, northwest Co. Mayo, to include repair and maintenance work as necessary, between the months of May and September 2021 is not

likely to have a significant effect on the environment and, consequently, an Environmental Impact Assessment is not required in respect of the proposed activities, subject to the implementation of the mitigation measures referred to in Section 5 of the Ramboll Report, which I adopt and set out in Table 1 of this Determination (below). This decision is contingent on the inclusion of these mitigation measures in any consent that may be granted in respect of this application.

Further, should alternative vessel(s) be proposed, Vermillion must seek approval from the Department prior to commencement of the proposed activities. In this event, confirmation will be required that the survey equipment and methodology on any replacement vessel(s) are equivalent to that described in the updated RSK EIA Screening Report and that the description of the development used to inform the Environmental Risk Assessment is still valid. Accordingly, this decision is further contingent on this requirement also being included as a condition of any consent granted in respect of this application.

The Applicant can be informed of this EIA Screening Determination and the public will also be informed with the Determination being published on the Department's website and notice thereof being published in a national newspaper.

Jean Clarke

Environment Advisory Unit, 24th March, 2021
Department of the Environment, Climate and Communications

Judicial Review

Please note that the validity of this EIA Screening Determination may be questioned by Judicial Review under Order 84 of the Rules of the Superior Courts (S.I. No.15 of 1986), as amended. Any application for leave to apply for judicial review must be made promptly and in any event within three months from the date of the Determination. Practical information on judicial review can be obtained from the Citizens Information Board, Ground Floor, Georges Quay House, 43 Townsend Street, Dublin 2 or online (www.citizensinformation.ie) or from the Courts Website (www.courts.ie).

Table 1: Mitigation measures required to be specified in any Consent that may be granted

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 the last sighting for the animals to leave the area (30 minutes).	X	

	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-down, survey line or station change) then all pre-start monitoring	X	

	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