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**STATUTORY
ENVIRONMENTAL
ASSESSMENT
APPROPRIATE
ASSESSMENT
SCREENING AND NIS
REVIEW FOR BARRYROE
SITE SURVEY**

STATUTORY ENVIRONMENTAL ASSESSMENT APPROPRIATE ASSESSMENT SCREENING AND NIS REVIEW FOR BARRYROE SITE SURVEY

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Approved by **Peter Bruce**

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EXECUTIVE SUMMARY

Ramboll UK Limited (herein referred to as Ramboll) has been commissioned by the Department for Communications, Climate Action and Environment (herein referred to as DCCA) to provide assistance with regards to the statutory assessment of applications submitted in respect of offshore geophysical and seismic survey acquisition applications and exploratory drilling.

Exola DAC (a wholly owned subsidiary of Providence Resources plc) (referred to herein as the applicant) have applied for consent to undertake a site survey, consisting of both geophysical and seabed surveys, within the Barryroe licence area (SEL1/11). The competent authority (DCCA) is required to consider the potential effects of such activities on the integrity of Natura 2000 sites, with respect to Article 6(3) of Council Directive 92/43/EEC which is transposed in to Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011-15 as amended (the Habitats Regulations).

This report provides an assessment of the Barryroe Site Survey Appropriate Assessment Screening and Natura Impact Statement (NIS) submitted by the applicant.

Public consultation on the application has been undertaken by the DCCA. All submissions and observations received by the DCCA have been taken into consideration in the preparation of this report.

Ramboll confirms that the information provided by the applicant is considered to be adequate, up to date and that no other information was required to make this screening determination or carry out the Appropriate Assessment. The applicant provided adequate, up-to-date, best scientific information so as to enable the DCCA to make a screening determination and undertake an Appropriate Assessment to determine whether the integrity of a European site is likely to be adversely affected by the proposed project.

1. INTRODUCTION

Ramboll UK Limited (herein referred to as Ramboll) has been commissioned by the Department for Communications, Climate Action and Environment (herein referred to as DCCA) to provide advice as competent experts for the statutory assessment of applications for consent submitted in respect of offshore geophysical and seismic survey acquisition applications and exploratory drilling.

Exola DAC (a wholly owned subsidiary of Providence Resources plc) (referred to herein as the applicant) has applied for consent to undertake a site survey, consisting of both geophysical and seabed surveys, within the Barryroe licence area (SEL1/11).

This report provides an assessment of the revised Barryroe Site Survey Appropriate Assessment Screening and Natura Impact Statement (dated May 2019) submitted by the applicant, prepared and approved by Ramboll as competent experts.

1.1 Project Background

The competent authority (DCCA) is required to consider the potential effects of exploration activities on the integrity of Natura 2000 sites, with respect to Article 6(3) of Council Directive 92/43/EEC which is transposed in to Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011-15 as amended (the Habitats Regulations).

2. TERMS OF REFERENCE

2.1 Legislative Context

This report has been prepared having regard to EC Directive 2009/147/EC¹ on the conservation of wild birds (commonly referred to as the Birds Directive) and EC Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (commonly referred to as the Habitats Directive), the European Communities (Birds and Natural Habitats) Regulations 2011 – 15 (the Birds and Habitats regulations) as amended and relevant jurisprudence of the EU and Irish courts.

The Appropriate Assessment Screening and the Natura Impact Statement confirm that the Project has been screened having regard to the Birds and Habitats Directives and the Birds and Habitats regulations and relevant jurisprudence of the EU and Irish courts.

2.2 Relevant Guidance

This report, the AA Screening and the NIS have been prepared having regard to guidance on appropriate assessment for planning authorities, published by the Department for Environment, Heritage and Local Government (DEHLG) in 2009². In addition, the structure and content of this report is based upon methodology published by the European Commission in 2002³ and Commission notice C (2018)⁴.

2.3 Public Consultation

The application by the applicant was advertised by DCCAE on their website following receipt of the application on 21 February 2019. Invitations for submissions were advertised by DCCAE to be received by close of business on 1 April 2019 to ensure consideration by the Minister.

Two responses were received, and the points raised by these have been considered and responded to as provided in the following sections of this report:

- Response letter from Harrington & Co. Solicitors on behalf of An Taisce dated 1 April 2019; and
- Response letter from Department of Culture, Heritage and the Gaeltacht dated 4 April 2019.

No further consultation responses were received following advertisement by DCCAE on their website of additional information provided by the applicant on 16 May 2019.

2.3.1 General Consultation Responses

The following general responses have been received:

- Comments on the regulatory process:
 - Comment is made regarding a previous consultation response made by An Taisce on proposals by Exola to survey Barryroe. An Taisce note that in the case of the previous proposals, the High Court granted to An Taisce an Order of Certiorari quashing decisions in relation to an EIA Screening and Survey Consent.

¹ Amending Directive 70/409/EEC

² DEHLG (2009) Appropriate Assessment of Plans & Projects - Guidance for Planning Authorities, Revision Notes added 2010, URL: <https://www.npws.ie/protected-sites/guidance-appropriate-assessment-planning-authorities> (accessed 15/03/2019)

³ European Communities (2002) Assessment of Plans and Projects significantly affecting Natura 2000 sites, Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EE, URL: http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm (accessed 15/03/2019)

⁴ EC (2018) Commission Notice "Managing Natura 2000 sites The provisions of Article 6 of the Habitats Directive 92/43/EEC. URL: http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/Provisions_Art_.nov_2018_endocx.pdf. Accessed 23/05/2019.

- An Taisce remains concerned that no significant structural changes have occurred in DCCAE's management of these decision making processes despite the circumstances that led to the Order of Certiorari.
- An Taisce believe that it remains the case that there is no demarcation of duties within the DCCAE for the purposes of ensuring objectivity in decision-making for EIA screenings and other EIA decisions under the Directive. It seems that Civil Servants dealing directly with oil exploration developers on commercial matters are still involved in these types of environmental consent applications.
- It is the position of An Taisce that to ensure the necessary level of objectivity and to avoid a perception of objective bias, these types of environmental consents must be made by an independent body outside of the control of departmental units that manage commercial concerns of exploration licensees.
- An Taisce believe that public notification of this application is poor and is limited to a single electronic posting on the DCCAE's website. No information has been provided regarding the timing of any decisions and how any decision will be made public.
- An Taisce requests that it be informed in advance of any decision made in relation to this application, including any separate screening decision made in advance of the consent. We also ask that the public be notified of the decisions in an open and transparent manner.

These comments are regarding the current regulatory process that exists within Ireland and structure of DCCAE. Since these matters are not within the scope of this review they are not responded to by this report. The request for An Taisce to be informed in advance of the public of the screening decision is a matter for DCCAE.

2.3.2 Project Specific Consultation Responses

Project specific submissions and observations have been received and are summarised in table 2.1 along with a response to demonstrate how the representations have been considered:

Table 2.1: Project Specific Submissions and Observations

Consultee	Project specific comments	Response
An Taisce	<p>The survey and other works which are the subject of this application for consent are to be carried out as a precursor to and in preparation for further exploratory drilling works at this site. The location of 4 no. proposed wells are indicated in the application documentation.</p> <p>Exploratory drilling has been occurring periodically at the Barryroe site since 1973. Several wells have already been drilled which already demonstrate a potential yield of more than 500 tonnes of crude oil per day. Under Council Directive 2011/92/EU (the EIA Directive), an Environmental Impact Assessment (EIA) is mandatory for oil extraction exceeding 500 tonnes per day, while under the robust Irish transposition of Annex II of the Directive, any extraction of oil requires an EIA including extraction of oil for exploratory</p>	<p>No drilling or extraction of hydrocarbons is proposed within the scope of activities for which the applicant is seeking consent. Whilst the application does show the proposed location of 4 no. potential future wells, it is stated in the application that the proposed exploration activities at this stage are limited to a geophysical survey and environmental baseline survey. Cumulative effects of this survey with other known activities are considered by the applicant as far as is considered possible and practicable.</p> <p>The area of the project is within an area designated for offshore exploration and has been assessed by the Irish Offshore Strategic Environmental Assessment 5.</p> <p>Furthermore, any future drilling works would be subject to a separate EIA Screening application and would be determined on the basis of information submitted at that time.</p>

Consultee	Project specific comments	Response
	<p>drilling purposes.</p> <p>An Taisce submits that the drilling works will require an EIA and that the cumulative effects of this and other site surveys, and also the cumulative effects of the site surveys with planned drilling works, should be subject to EIA and associated consultations</p>	
<p>An Taisce</p>	<p>An Taisce is concerned at the range of species that the developer has screened out of appropriate assessment, including species known to be in the area that are conservation objectives of nearby European Sites and species that are in the food chain of species for which European Sites were designated.</p> <p>In the screening, the developer relies on the absence of air-gun technology from the survey proposals to screen out certain species; however, the clear intention of Exola expressed in a Marine Notice published in October 2018 is to provide for the possibility that secondary equipment may be required (due to failure or poor performance of primary equipment) which may consist of mini air-gun, boomer sub-bottom profiler and sparker sub-bottom profiler. The survey vessel proposed in the current application is equipped to carry two types of air-gun. It is essential that all possible survey impacts are assessed at both screening and appropriate assessment stage.</p> <p>The Natura Impact Statement has only considered three species, the Harbour Porpoise, the Bottlenose Dolphin and the Grey Seal. An Taisce is of the belief that an insufficient range of species has been given due consideration and appropriate assessment. Furthermore, in our view the Natura Impact Statement leaves reasonable scientific doubt that the species assessed will not be impacted. The developer proposes to conduct an environmental field assessment of species and habitats at the same time as the sonar survey. An Taisce is of the opinion that the field assessment of species and habitats should predate any application for an acoustic survey or decision on same and should inform the Department's</p>	<p>The use of airguns is explicitly excluded by the applicant in their description of development and therefore it is appropriate that potential effects associated with their use have not been assessed in the applicant's reports. The application has been assessed based on information provided by the applicant at this time.</p> <p>We agree that should the applicant change the survey vessel or equipment they should be required to seek approval from the DCCAIE and that as part of that process DCCAIE should expect to see evidence that the vessel, equipment and methodology proposed are not materially different from the assumptions used to inform the applicants assessment of potential effects. A recommendation to DCCAIE to this effect is made in the conclusions section of this report.</p> <p>The AA Screening Report has considered the qualifying species for the Natura 2000 sites that may potentially be affected by the project, which also includes fish species, otters, birds and reef habitats as well as the Harbour porpoise, Bottlenose dolphin and Grey seal. The basis on which these other species have been screened out of the NIS is considered reasonable. The marine mammals screened into the NIS (i.e. the Harbour porpoise, Bottlenose dolphin and Grey seal) are considered to be appropriate as the applicant has adequately⁵ described how effects on the other qualifying species are unlikely.</p> <p>Regarding the environmental field assessment, the applicant states that it is proposed to undertake the benthic grab sampling programme immediately after the geophysical survey. This is to allow the geophysical survey data to be examined to assist in the delineation of benthic habitats and inform the final locations of benthic</p>

⁵ Where this report describes the application as giving 'adequate' information on any given issue, it should be taken to mean that Ramboll, acting as competent experts advising the DCCAIE, consider that the information provided by the applicant is complete, precise, definitive, up-to-date and represents the best scientific information, as far as is possible and practicable within the context of the application submitted.

Consultee	Project specific comments	Response
	<p>Appropriate Assessment for the purposes of removing all scientific doubt</p>	<p>sampling sites, as well as identifying any potential marine archaeological features.</p>
<p>Department of Culture, Heritage and the Gaeltacht</p>	<p>Underwater Archaeology</p> <p>The Department notes the intention to carry out an Underwater Archaeological Impact Assessment (UAIA) and this is to be welcomed. As identified in the previous response of August 2018, the submitted EIS Scoping Report does not include any section on the Underwater Cultural Heritage (UCH).</p> <p>The Department has no objections to this application once the following is included as a CONDITION of any permit issued.</p> <ul style="list-style-type: none"> • The services of a suitably qualified and suitably experienced maritime archaeologist, to include experience in the interpretation of marine geophysical data, shall be engaged in advance of any such survey to undertake the UAIA so as to inform on the cultural potential of the area and advise on the known or potential location of any shipwrecks or other UCH within the specified survey area. This is particularly relevant where grab samples, etc. are being carried out. • The Underwater Archaeological Impact Assessment (UAIA) comprised detailed desktop study and archaeo-geophysical interpretation of all geophysical survey results as well as assessment of the results of all sampling. • The UAIA shall be licensed by this Department and a detailed method statement shall accompany the licence application by the archaeologist. <p>Ideally the archaeologist would be on board the survey vessel to view the geophysical data in real time and identify known or potential UCH as it is encountered. If this is not possible the results of all marine geophysical survey undertaken shall be made available to the archaeologist for assessment and interpretation, and to inform on any potential submerged cultural heritage or submerged palaeo-landscape evidence.</p> <p>The UAIA report shall be forwarded to the Underwater Archaeology Unit of this Department for consideration and further</p>	<p>We agree that the applicants report does not include any information on the archaeological baseline. The applicant has adequately addressed this through the commitment to undertake an archaeological assessment using the geophysical survey data and by using video/photos to inspect the benthic grab sample locations prior to deployment of the sampler.</p> <p>We concur that the conditions proposed by the NPWS are reasonable and proportionate given the potential for effects on previously unidentified cultural heritage sites and the absence of any assessment undertaken to date.</p> <p>A request for further information from the applicant was made querying how they propose to undertake the video/photography survey as this is not described.</p> <p>Following receipt of additional information from the applicant, information has been provided on how the video/photographic survey will be undertaken. The potential for significant effects on the environment including European sites and protected species as a result of the surveys proposed by the applicant has been considered in the revised documentation.</p>

Consultee	Project specific comments	Response
	<p>comment in advance of any site investigation/sampling works taking place.</p> <p>The Underwater Archaeology Unit is happy to liaise with the applicant's archaeologist, once engaged, to assist with discussions on archaeological assessment already carried out and any new areas requiring assessment for the current application.</p>	
<p>Department of Culture, Heritage and the Gaeltacht</p>	<p>Marine Science and Biodiversity</p> <p>The Department has reviewed the documentation submitted and is satisfied that, in relation to marine mammals, effective mitigation of any significant impacts on the SAC network or on Annex IV species can be achieved by adherence to the Department's Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (DAHG, 2014).</p>	<p>The adequacy of the NIS will be reviewed and reported in this report.</p>

3. PROJECT DETAILS

Table 3.1 provides a summary of the key project information.

Table 3.1: Project Information

Project Title:	Barryroe Site Survey
Project Type:	Geophysical and Environmental Site Surveys
Applicant:	Exola DAC
Exploration Licence Reference:	Barryroe licence area (SEL 1/11)
Date AA Screening Report Received:	16 May 2019 (superseding previous report dated 27 February 2019).

3.1 Determining whether a Project should be subject to an Appropriate Assessment

Under Paragraph 42(6) of the Habitats Regulations, the DCCAE (as the relevant competent authority) shall determine that an AA is required, where it cannot be excluded, on the basis of objective scientific information following screening, that the project, either individually or in combination with other plans and projects, will have a significant effect on a European Site.

Where it is determined that AA is required for a proposed development or project, the applicant must submit a Natura Impact Statement (NIS).

3.2 Description of the Project

The AA screening process involves describing the individual elements of the project that are likely to give rise to impacts on the conservation objectives and/or qualifying features of a Natura site.

Table 3.2 provides a checklist to ensure that the applicant has provided an adequate description of a project within the screening report for the assessor to determine an AA screening option.

Table 3.2: Description of Project

<p>Brief Project Description:</p> <p>The site survey will comprise a seabed and shallow geophysical survey and an environmental baseline and habitat assessment survey to be conducted over three survey areas, encompassing four potential future well locations, within two separate survey vessel activity areas at Barryroe, together with a single environmental control point approximately 10 km to the east-south east. The two survey vessel activity areas cover a total area of approximately 99 km² (25 km² and 74 km² respectively) and allow for a 1 km buffer around the survey areas within which the survey vessel may manoeuvre during line turns and during equipment deployment and recovery.</p> <p>The key aims of the survey are to:</p> <ul style="list-style-type: none"> • Accurately determine water depths and provide information on the depth of sediments overlying bedrock and to map any chalk exposures; • Provide information on seabed and sub-seabed conditions to ensure the safe emplacement and operation of a semi-submersible drilling rig at four proposed well locations (drilling does not form part of this application); • Provide information on the cultural potential of the survey area, including the location of any shipwrecks or other underwater cultural heritage features; • Assess the survey area for the presence of any Annex 1 habitats (as defined in the EC Habitats Directive 92/43/EC); and • Obtain environmental baseline samples across the survey area to establish a benchmark for ongoing environmental monitoring as per OSPAR guidelines. <p>The proposed Barryroe site survey will comprise a seabed and shallow soils survey and an environmental baseline and habitat assessment. Survey operations are proposed to take place prior to 30th November 2019, subject to regulatory approval and vessel availability. If the survey has not</p>

commenced within this timeframe then operations will be undertaken sometime between 1st February 2020 and 30th November 2020, again subject to regulatory approval and vessel availability.

The anticipated duration of the survey is approximately 16 working days, excluding transit, port calls and weather downtime. It is anticipated that the geophysical survey elements will take approximately 6 days to complete and that the remaining approximately 10 days will be spent on the environmental baseline survey.

The vessel proposed to be used for the survey is the MV Kommander. Prior to the commencement of the proposed site survey operations, the applicant may seek approval from DCCAE to use an alternative equivalent survey vessel. In this event, DCCAE require confirmation that the survey equipment and methodology on any replacement vessel are equivalent to that described in the AA Screening Report and that the description of proposed development will not change.

Geophysical equipment to be used includes a Dual Frequency Side Scan Sonar, Single-beam Echo Sounder, Multi-beam echo sounder, Pinger sub-bottom profiler, USBL and magnetometer (note that no seismic activity will be conducted and airguns are not proposed).

The environmental baseline survey will comprise approximately 53 seabed sample locations, from which benthic samples will be taken using a day grab, box corer or dual Van Veen grab. It is estimated that approximately 1 m² of seabed will be disturbed at each location. An indicative number of points and positions for the sample locations are provided by the applicant, however it is noted that the final number and location of sampling stations will be determined by the number of habitats identified by the geophysical survey.

Any potentially sensitive habitats identified from the geophysical survey will be investigated using high-resolution video or camera stills. These seabed images will be taken by means of a digital stills deep water camera system with a dedicated strobe and video lamps mounted in a stainless steel frame. A USBL positioning beacon will be attached to the frame. Footage will be viewed in real time, using a hover and drift technique at appropriate intervals.

Project Element	Have these features of the project plan been identified by the applicant? (If not, please provide details)
Spatial Extent (size, scale, area etc)	Yes
Supporting Infrastructure	Yes
Transportation Requirements	Yes
Physical changes that will result from the project (e.g. from excavation, dredging)	Yes
Emissions and Waste	Yes
Resource Requirements (e.g. water abstraction)	Yes
Duration of each phase e.g. <ul style="list-style-type: none"> • Phase 1 Construction • Phase 2 Operation • Phase 3 Decommissioning 	Yes

The AA screening must consider the effects of the proposed development in combination with other plans and other projects (operational, consented and proposed (but not yet approved)) in making the screening assessment.

Table 3.3 provides a review of the in-combination assessment undertaken by the applicant.

Table 3.3: In combination Assessment

Brief Description of identified plans / projects that might act in combination (Operational, Consented and Proposed projects (but not yet approved)) with the proposed project:

- PSE Kinsale Energy Limited plan to decommission the Kinsale Area gas fields and facilities location in the Celtic Sea approximately 15 km NE of the Barryroe survey area;
- CNOOC (formerly Nexen Petroleum UK Ltd) plans to drill a single exploration well in the Iolar prospect in the Porcupine Basin, 337 km SW of the Barryroe survey area;
- ENI Ireland BV is planning to conduct a site survey between June and September 2019 at the Dunquin South formation in the Porcupine Basin, 256 km west of the Barryroe survey area;
- Marine Institute plans to conduct surveys in the Celtic and Atlantic Ocean as part of the INFOMAR Programme between April and October 2019;
- Vermillion Exploration and Production plan to conduct a site survey campaign including inspection, repair and maintenance between July and September 2019 on the Corrib offshore pipeline;
- CNOOC (formally Nexen Petroleum UK Ltd) plan to conduct a site survey between August and September 2019 in 16/23, approximately 375 km NW of the Barryroe survey area;
- ENI Ireland BV is planning to conduct a 3D seismic survey between July 2019 and October 2020 lasting 45 days targeting FEL 12/18, approximately 235 km to the west of the Barryroe survey area;
- Europa O&G may conduct a total of three site surveys targeting their Inishkea, Edgeworth and Kiely East prospects, scheduled between May and September 2019 approximately 390 km, 200 km and 316 km to the north and west of the Barryroe survey area; and
- Licence area 1/11 contains existing infrastructure, but there will be little interaction.

It is stated that Exola DAC do not know of any other projects that may have in-combination impacts with the project and it is thought that list is comprehensive. However it is advisable that the regulatory body is contacted regularly in order to ascertain if there are any more projects that may coincide, or to provide extra confidence that the list is exhaustive prior to survey commencement.

Project Element	Is the predicted magnitude / extent of identified likely cumulative effects considered by the applicant?	Summary
Spatial Extent (define boundaries for examination of cumulative effects)	Yes	The applicant has adequately described the potential extent of the effects of the project in order to correctly determine the envelope of impacts from the project and the receptors that may be affected in combination with other projects.
Impact Identification (e.g. noise, chemical emissions etc.)	Yes	The applicant has described the potential impacts arising from the project and considered which of the impacts identified are relevant to the determination of Likely Significant Effect (LSE) (specifically, underwater sound and pressure emissions) and have linked these clearly to pathways that might transmit impacts to receptors.
Pathway Identification (e.g. via water, air etc)	Yes	The applicant has described the potential impact / pressure pathways and have linked these clearly to determinations of LSE.

3.3 Identification of relevant European sites and species

The applicant's report considers the designated European sites and species protected by the Birds and Habitats Directives that are likely to be impacted by the project, including consideration of direct, indirect and in combination effects. As projects that lie out with European sites may still have an impact upon their integrity, particularly in a marine environment where the environment is extremely dynamic and species may be highly mobile, identifying potential zones of influence surrounding European sites is a key component.

Table 3.4 identifies the relevant European sites and species that might be impacted by the project.

Table 3.4: Identification of Relevant European Sites/Species

Natura site/species identified by assessor	Distance from Project Site (km)	Is the Natura site / species identified by the applicant?	Are all the qualifying interests listed by the applicant?⁶	Are direct impacts to the Natura Site / species considered by the applicant?	Are indirect impacts to the Natura Site / species considered by the applicant?	Are Potential Zones of Influence on the Natura Site / species considered by the applicant?	Are the in combination effects considered by the applicant?	Briefly summarise whether the applicant's consideration of the relevant Natura sites /species which may be affected by the proposed project, meets the minimum requirements for an AA screening opinion:
1. Roaringwater Bay and Islands cSAC (site code 000101)	64 km NW	Yes	Unknown	Yes	Yes	Yes	Yes	Consideration meets requirements
2. Lower River Shannon cSAC (site code 002165)	126 km NW	Yes	Unknown	Yes	Yes	Yes	Yes	Consideration meets requirements
3. Saltee Islands cSAC (site code 000707)	147 km NE	Yes	Unknown	Yes	Yes	Yes	Yes	Consideration meets requirements
4. Blasket Islands cSAC (site code 002172)	160 km NW	Yes	Unknown	Yes	Yes	Yes	Yes	Consideration meets requirements
5. West Connacht Coast cSAC (site code 002998)	274 km NW	Yes	Unknown	Yes	Yes	Yes	Yes	Consideration meets requirements
6. Rockabill to Dalkey Island cSAC (site code 003000)	275 km NE	Yes	Unknown	Yes	Yes	Yes	Yes	Consideration meets requirements

⁶ It should be noted that the response in this column is unknown because it was unclear from the Applicant's report as to whether they had listed all of the qualifying features of the site and taken relevant jurisprudence into consideration in the description of the site and its qualifying features.

Natura site/species identified by assessor	Distance from Project Site (km)	Is the Natura site / species identified by the applicant?	Are all the qualifying interests listed by the applicant?⁶	Are direct impacts to the Natura Site / species considered by the applicant?	Are indirect impacts to the Natura Site / species considered by the applicant?	Are Potential Zones of Influence on the Natura Site / species considered by the applicant?	Are the in combination effects considered by the applicant?	Briefly summarise whether the applicant's consideration of the relevant Natura sites /species which may be affected by the proposed project, meets the minimum requirements for an AA screening opinion:
7. Cetacean species (Annex IV species)	Present within Irish waters	Yes	Yes	Yes	Yes	Yes	Yes	Consideration meets requirements
8. Marine reptiles (four species) (Annex IV species)	Present within Irish waters	Yes	Yes	Yes	Yes	Yes	Yes	Consideration meets requirements
9. European otter (Annex IV species)	Present within Irish waters	Yes	Yes	Yes	Yes	Yes	Yes	Consideration meets requirements
10. Pinniped species (two species) (Annex II species)	Present within Irish waters	Yes	Yes	Yes	Yes	Yes	Yes	Consideration meets requirements
11. Migratory fish species (four species) (Annex II species)	Present within Irish waters	Yes	Yes	Yes	Yes	Yes	Yes	Consideration meets requirements

3.4 Screening for Appropriate Assessment of Likely Significant Effects

Table 3.5 provides a summary of the LSE identified for the project alone or in combination with the other projects considering, *inter alia*, the characteristics and specific environmental conditions of the sites concerned by the relevant project and the project location.

Table 3.5: Assessment of Likely Significant Effects AA Screening

<p>Summary of LSE</p> <p>The applicant's AA Screening Report identifies the following impact sources for further consideration in the determination of LSE:</p> <ul style="list-style-type: none"> • Underwater noise generated from the geophysical survey equipment, as well as from the survey vessel itself.
<p>Do you agree with the applicant's AA screening assessment? Why?</p> <p>Yes. Ramboll do agree with the applicant's conclusion in their AA Screening report for the following reasons:</p> <ul style="list-style-type: none"> • Connectivity between designated features of the European sites and Annex IV species has been identified and assessed and the proposed activities has been identified by the applicant in order to screen in the following European sites and Annex IV species to the Stage 2 assessment: <ul style="list-style-type: none"> • Roaringwater Bay and Islands cSAC; • Lower River Shannon cSAC; • Saltee Islands cSAC; • Blasket Islands cSAC; • West Connacht Coast cSAC; • Rockabill to Dalkey Island cSAC; • Cetaceans, including fish as prey items; • Pinnipeds; and • Turtles.

3.5 Screening Determination

If significant effects are certain, likely or uncertain the applicant must submit an NIS in order for the DCCAE to undertake an AA as competent authority. The applicant may also choose to recommence the screening process with a modified project that removes or avoids elements that posed a risk of LSE.

Table 3.6 and 3.7 provide a summary of Ramboll’s recommendation to enable DCCAE to make a screening determination.

Table 3.6: Summary of Applicant’s Screening Report Review

Is the plan or project is directly connected with or necessary to the nature conservation management of the Natura site?	No
Is the project or plan likely to have significant effects on the environment?	Yes
Is an AA required? (Yes/ No/More Information Required?)	Yes
What further information is required to inform AA screening opinion (if any)?	None

Table 3.7: Recommendation of Screening Determination

Outcome of Stage 1 Appropriate Assessment	Stage 1 Appropriate Assessment Determination
Likely or Potentially Likely Significant Effects on Natura Sites identified, and project is not directly connected with or necessary to the nature conservation management of the Natura site.	Proceed to Phase 2 Appropriate Assessment (See Section 4). 'An appropriate assessment of a [...] proposed development, [...], is required because it cannot be excluded, on the basis of objective information, that the [...] proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.'
No Likely Significant Effects on Natura Sites identified, or project is directly connected with or necessary to the nature conservation management of the Natura site.	Appropriate Assessment is not required

4. STAGE 2 APPROPRIATE ASSESSMENT

4.1 Natura Impact Statements

A NIS⁷ is a scientifically robust examination of a proposed plan or project, which is used to characterise any possible implications of the project on the conservation objectives of any relevant European site(s). The primary purpose of the NIS is to provide the competent authority with the information required to complete an Appropriate Assessment (AA).

Following the receipt of a NIS, the DCCAE (as the competent authority) will undertake an AA to determine whether the proposed project is likely to have an adverse effect on the integrity⁸ of any relevant European sites with regards to their conservation objectives, both individually and in combination with other plans or projects. On completion of the AA, the DCCAE will produce an AA Conclusion Statement.

Table 4.1 provides a checklist of information that should be provided by the applicant's NIS (or supporting documents), with regards to European site(s) and/or species that may be affected by the proposed project, in order for the DCCAE to undertake an AA.

Table 4.1: Summary of European site information to be included in a NIS (or supporting documentation)

NIS Content	Does the applicant's NIS provide the following information? (Y/N/Unsure)	Briefly Explain Answer:
The Conservation Status of relevant Habitats and Species listed under the Birds and Habitats Directives;	Yes	The conservation status of the relevant species listed under the Habitats Directive have been adequately described by the applicant in respect of each European site and Annex IV species assessed.
The Conservation Status of relevant Species listed under Annex I of the Birds Directive;	N/A	No European sites with relevant species listed under Annex I of the Birds Directive have been screened into assessment within the NIS by the applicant.
The baseline conditions of any relevant European site(s);	Yes	Adequate information has been provided by the applicant in this regard.
The conservation objectives and qualifying features of any relevant European site(s);	Yes	The conservation objectives and qualifying features of the relevant European sites have been adequately described by

⁷ Note - Natura Impact Statement (NIS) is an Irish specific term used following transposition of the Birds and Habitats Directives into national legislation.

⁸ Ecological integrity has been defined in as 'the coherence of the site's ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or populations of species for which it is classified' (Managing Natura 2000 sites, EC, 2000)

NIS Content	Does the applicant's NIS provide the following information? (Y/N/Unsure)	Briefly Explain Answer:
		the applicant.
Any management plans associated with relevant European site(s);	Yes	No management plans associated with the relevant European sites have been mad.
Details on each species and habitat type for which relevant European site(s) are designated and spatial mapping of the distribution and temporal mapping, including lifestyle stages;	Yes	Adequate information has been provided by the applicant in this regard.
Information on population profile of the species and their conservation status (e.g. size, population structure etc.)	Yes	Adequate information has been provided by the applicant in this regard.
Ecosystem structure and functioning of the site and its overall conservation state;	Yes	Adequate information has been provided by the applicant in this regard.
The role of the site within the ecosystem region and the Natura 2000 network;	Yes	Adequate information has been provided by the applicant in this regard.
Any other aspects of the site or its wildlife that is likely to have an influence on its conservation status and objectives (e.g. current management activities, other developments etc.)	Yes	Adequate information has been provided by the applicant

Table 4.2 provides a checklist of information that should be provided in the NIS (or supporting documents), in order for the DCCAE to complete an AA.

Table 4.2: Summary of information to be included in a NIS (or supporting documentation) for consideration in AA

NIS Content	Does the applicant's NIS provide sufficient detail to inform an Appropriate Assessment? (Y/N/Unsure)	Briefly Explain Answer:
A description of size, scale and objectives of the proposed plan or project;	Yes	The applicant has provided an adequate description of the size, scale and objectives of the project. As requested, additional information has

NIS Content	Does the applicant's NIS provide sufficient detail to inform an Appropriate Assessment? (Y/N/Unsure)	Briefly Explain Answer:
		been provided on the methods for video / photography data acquisition.
A description of the pressures of the proposed plan or project, its and likely impacts on the conservation objectives and local site characteristics;	Yes	An adequate description has been provided by the applicant of the pressures of the project and its likely impacts on the conservation objectives and local sites characteristics.
Identification of all European sites and Annex IV species located within the zone of influence of the proposed plan or project, together with qualifying interests and conservation objectives;	Yes	The applicant has identified the relevant European sites, together with the relevant qualifying interests and conservation objectives as well as relevant Annex IV species.
Methodologies, analysis and data sources utilised to demonstrate use of best scientific knowledge;	Yes	The applicant has used appropriate methodologies and data sources as well as used suitable analysis methods to demonstrate the use of best scientific knowledge.
A scientific assessment, analysis and statement of the significant effects including direct, indirect, cumulative and in combination effects of the relevant European site(s) and/or species which are expected to occur as a result of the development;	Yes	The applicant has provided a scientific assessment, analysis and statement of the significant effects including direct, indirect, cumulative and in combination effects of the relevant European site(s) and/or species which are expected to occur as a result of the development
Details of any appropriate mitigation measures undertaken, or proposed to be undertaken by the applicant to mitigate any significant effects on the environment or on the European site(s) and/or Annex IV species, and the period within which any such measures shall be carried out by the developer;	Yes	<p>Appropriate mitigation measures have been proposed by the applicant. The mitigation measures proposed by the applicant are considered reliable and known to be effective. These measures are listed below:</p> <ul style="list-style-type: none"> Two qualified Marine Mammal Observers (MMOs) will be appointed to monitor marine mammals and log all data according to the standard forms provided in the DAHG Guidance and provide an MMO report to the Regulatory Authorities;

NIS Content	Does the applicant's NIS provide sufficient detail to inform an Appropriate Assessment? (Y/N/Unsure)	Briefly Explain Answer:
		<ul style="list-style-type: none"> • Acoustic surveying will not commence if marine mammals are detected within a 500 m radius around the acoustic sources (referred to as the Monitored Zone); • Sound producing activities will only be commenced in daylight hours where effective visual monitoring, as determined by the MMO, can be achieved; • For sound producing activities, as water depths across the survey area are less than 200 m, pre-start up monitoring will be conducted by the MMO at least 30 minutes before any activity using the acoustic sources is due to commence. Sound-producing survey activity using the acoustic sound sources will not commence until at least 30 minutes has elapsed with no marine mammals detected in the Monitored Zone by the MMO. This pre-start monitoring will be followed by the soft-start procedure; • Commencement of sound-producing survey activities will be undertaken using a "soft-start" (ramp up and gradual increase in energy/noise source) procedures for any equipment where the peak SPL exceeds 170 dB re 1µPa at 1 metre. The build up of acoustic energy output will occur in consistent stages to provide a steady and gradual increase in power (over a period of 20 minute). Where the power of the acoustic noise sources cannot be increased gradually, due to the operational parameters of the device, the device will be switched on and off in a consistent sequential manner for a period of 20 minutes prior to commencement of the full necessary output; • Where a soft start procedure is employed, the delay between the end of the soft start procedure and

NIS Content	Does the applicant's NIS provide sufficient detail to inform an Appropriate Assessment? (Y/N/Unsure)	Briefly Explain Answer:
		the start of the survey will be minimised to prevent unnecessary high-level sound introduction; <ul style="list-style-type: none"> • Where there is a break in sound output (e.g. in the event of equipment failure, shut down etc.) from the acoustic source for more than 30 minutes, all soft start procedures must be undertaken before activity can recommence; • Full reporting on MMO operations and mitigation measures undertaken must be provided to the relevant Regulatory Authorities in accordance with the DAHG Guidance.
An assessment of the scope and scale of residual effects after mitigation (including direct, indirect, cumulative and in combination effects);	Yes	The applicant has provided an assessment of the scope and scale of residual effects after mitigation (including direct, indirect, cumulative and in combination effects)
A conclusion in relation to whether or not the project would adversely affect the integrity of any European site (either individually or in cumulation/combination with operational, consented and proposed projects (but not yet approved))	Yes	Adequate information has been provided by the applicant to conclude that there will be no adverse effect on the integrity of the European sites in view of their conservation objectives either individually or in combination with existing or consented schemes.

4.2 Stage 2: Appropriate Assessment Determination

Tables 4.3 and 4.4 provide a summary of Ramboll's recommendation to enable DCCA to undertake an AA to determine whether the integrity of a European site will be adversely affected by the proposed project.

Table 4.3: Stage 2 Appropriate Assessment Determination Checklist

Does the NIS (and supporting documentation) contain sufficient information to complete an AA and to prepare an AA Conclusion Statement?	Yes
Does the NIS conclude that the proposed project or plan will have an adverse residual effect on the integrity of any European	No

sites or species?	
Do you agree with the conclusion(s) of applicant's NIS? (Briefly explain answer)	<p>Yes</p> <p>The applicant concludes that the proposed Barryroe site survey operations, together with the mitigation measures proposed, will not adversely affect (either directly or indirectly) the integrity of any European site or Annex IV species, either alone or in combination with other plans or projects. Ramboll agree with the conclusions reached by the applicant.</p> <p>This report concludes that the proposed project will not have an adverse effect on the environment or on the integrity of any European site in view of its conservation objectives and will not cause any significant disturbance to the Annex IV species described.</p>
What further information is required to complete an AA (if any)?	None

Table 4.4: Summary of Stage 2 Appropriate Assessment

Outcome of Stage 2 Appropriate Assessment	Stage 2 Appropriate Assessment Determination
AA determines that the proposed plan or project is likely to have an adverse effect on the integrity of a European Site(s) or species	Refuse planning consent or proceed to Stage 3 AA: Alternative Solutions (See Section 6)
The applicant's NIS does not contain sufficient information to determine whether the proposed plan or project is likely to have an adverse effect on the integrity of a European Site(s) or species	Request further information from the Applicant
AA determines that the proposed plan or project will not have an adverse effect on the environment or on the integrity of any European site in view of its conservation objectives and will not cause any significant disturbance to the Annex IV species described.	

5. MITIGATION AND MANAGEMENT COMMITMENTS

Table 5.1 documents the commitments that should be included in any licence issued. The mitigation measures proposed are considered reliable and known to be effective.

Table 5.1: Mitigation and management measures.

Mitigation and management measure proposed	Additional notes
Exola and its survey contractor will adhere to the DAHG Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (DAHG, 2014).	None
Two qualified Marine Mammal Observers (MMOs) will be appointed to monitor marine mammals and log all data according to the standardised forms provided in the DAHG Guidance and provide an MMO report to the Regulatory Authorities	None
Acoustic surveying will not commence if marine mammals are detected within a 500 m radius around the acoustic sources (referred to as the Monitored Zone)	None
Sound producing survey activities will only be commenced in daylight hours where effective visual monitoring, as determined by the MMO, can be achieved	If a break in sound output occurs during the hours of darkness, the survey will be suspended until daylight when effective visual monitoring, as determined by the MMO, can be completed before start up.
For sound producing activities, as water depths across the proposed survey area are less than 200 m, pre-start-up monitoring will be conducted by the MMO at least 30 minutes before any activity using the acoustic sources is due to commence. Sound producing survey activity using the acoustic sound sources will not commence until 30 minutes have elapsed with no marine mammals detected within the Monitored Zone by the MMO. This pre-start monitoring will be followed by the soft-start procedure	None
Commencement of sound producing activities will be undertaken using a 'soft-start' (ramp up and gradual increase in energy/noise source) procedure for any equipment where the output peak SPL exceeds 170 dB re 1 µPa at 1 metre. The build-up of acoustic energy output will occur in consistent stages to provide a steady and gradual increase in power (over a period of 20 minutes). Where the power of the acoustic noise source cannot be increased gradually, due to operational parameters of the device, the device will be switched "on" and "off" in a consistent sequential manner for a period of	None

Mitigation and management measure proposed	Additional notes
20 minutes prior to commencement of the full necessary output	
Where a soft-start procedure is employed, the delay between the end of the soft-start and the start of the survey will be minimised to prevent unnecessary high-level sound introduction	None
Where there is a break in sound output (i.e. in the event of equipment failure, shut down etc.) from the acoustic sources for more than 30 minutes, all soft-start procedures must be undertaken before the activity can recommence	None
Full reporting on MMO operations and mitigation measures must be provided to the Relevant Authorities in accordance with the DAHG Guidance	None
Should the applicant change the survey vessel or equipment they should be required to seek approval from the DCCAE and that as part of that process DCCAE should expect to see evidence that the vessel, equipment and methodology proposed are not materially different from the assumptions used to inform the applicants assessment of potential effects.	None
The services of a suitably qualified and suitably experienced maritime archaeologist, to include experience in the interpretation of marine geophysical data, shall be engaged in advance of any such survey to undertake the UAIA so as to inform on the cultural potential of the area and advise on the known or potential location of any shipwrecks or other UCH within the specified survey area. This is particularly relevant where grab samples, etc. are being carried out.	None
The Underwater Archaeological Impact Assessment (UAIA) comprised detailed desktop study and archaeo-geophysical interpretation of all geophysical survey results as well as assessment of the results of all sampling.	None
The UAIA shall be licensed by this Department and a detailed method statement shall accompany the licence application by the archaeologist.	None
Ideally the archaeologist would be on board the survey vessel to view the geophysical data in real time and identify known or potential UCH as it is encountered. If this is not possible the results of all marine geophysical survey undertaken shall be made available to the archaeologist for assessment and interpretation, and to inform on any potential submerged cultural heritage or submerged palaeo-landscape evidence.	None

Mitigation and management measure proposed	Additional notes
The UAIA report shall be forwarded to the Underwater Archaeology Unit of this Department for consideration and further comment in advance of any site investigation/sampling works taking place.	None
The Underwater Archaeology Unit is happy to liaise with the applicant's archaeologist, once engaged, to assist with discussions on archaeological assessment already carried out and any new areas requiring assessment for the current application.	None