Intended for
Environment Advisory Unit
Department for Communications, Climate Action and Environment

Date
April 2020

Project Number
1700003678

STATUTORY ENVIRONMENTAL ASSESSMENT

APPROPRIATE ASSESSMENT SCREENING DETERMINATION AND NIS REVIEW FOR BARRYROE K SITE SURVEY

RAMBOLL

STATUTORY ENVIRONMENTAL ASSESSMENT
BARRYROE K SITE SURVEY

Project No.	**1700003678**
Issue No.	**4**
Date	**April 2020**
Made by	**Kim Moore**
Checked by	**Peter Bruce**
Approved by	**Peter Bruce**

This report has been prepared by Ramboll UK Limited with all reasonable skill, care and diligence, and taking account of the Services and the Terms agreed between Ramboll UK Limited and the Client. This report is confidential to the Client, and Ramboll UK Limited accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Ramboll UK Limited beforehand. Any such party relies upon the report at their own risk. Ramboll UK Limited disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the Services.

Version Control Log

Revision	Date	Made by	Checked by	Approved by	Description
4	06/04/2020	KM	PB	PB	Issue to Client

Ramboll
5th Floor
7 Castle Street
Edinburgh
EH2 3AH
United Kingdom
T +44 131 297 2650
www.ramboll.co.uk

CONTENTS

EXECUTIVE SUMMARY **I**
1. INTRODUCTION **1**
1.1 Project Background 1
2. TERMS OF REFERENCE **2**
2.1 Legislative context 2
2.2 Relevant guidance 2
2.3 Consultation 2
3. REVIEW OF APPLICANT AA SCREENING REPORT **9**
3.1 Determining whether a Project should be subject to an Appropriate Assessment 9
3.2 Description of the Project 9
3.3 Identification of relevant European sites and species 12
3.4 Screening for Appropriate Assessment of Likely Significant Effects on Natura sites and adverse effects on Annex IV species. 15
3.5 Screening Determination 15
4. STAGE 2 APPROPRIATE ASSESSMENT **17**
4.1 Natura Impact Statements 17
4.2 Stage 2: Appropriate Assessment Determination 20
5. MITIGATION AND MANAGAMENT COMMITMENTS ERROR! BOOKMARK NOT DEFINED.

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 DCCAE) to provide assistance with regards to the statutory assessment of an application by Exola DAC, a wholly owned subsidiary of Providence Resources Plc (referred to herein as the applicant), submitted in respect of a site survey within the Barryroe licence area (SEL1/11) (referred to as the Barryroe K site).

The applicant has submitted an application for consent to carry out a seabed and shallow geophysical survey and an environmental and habitat assessment, encompassing a potential well location at Barryroe K as well as a single environmental control point located approximately 7 km southeast of the survey area. The survey will cover an area of approximately 9 km^2, and the greater working area in which the survey vessel may manoeuvre during line turns and equipment deployment and recovery is approximately 22 km^2.

The competent authority (DCCAE) 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 Birds and Natural Habitats Regulations).

This report provides an assessment of Appropriate Assessment Screening and Natura Impact Statement Report submitted by the applicant.

Public consultation on the application has been undertaken by DCCAE. All submissions and observations received by the DCCAE 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 is required to make a screening determination or carry out an Appropriate Assessment. The applicant provided adequate, up-to-date, best scientific information so as to enable the DCCAE 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 Communication, Climate Action and Environment (herein referred to as DCCAE) to provide assistance as competent experts for the statutory assessment of an application by Exola DAC, a wholly owned subsidiary of Providence Resources Plc. The authors hold undergraduate and postgraduate qualifications in environmental science (or related disciplines), professional qualifications including chartered status with the Society for the Environment and full membership of the Institute of Environmental Management and Assessment (MIEMA) and have long standing experience as expert practitioners within the fields of offshore development, environmental impact assessment and the appraisal of applications in the context of the Birds and Natural Habitat regulations.

This report provides an assessment of the Barryroe K Site Survey Appropriate Assessment Screening and Natura Impact Statement Report submitted by the applicant, prepared and approved by Ramboll as competent experts having relevant qualifications and experience.

1.1 Project Background

The competent authority (DCCAE) 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 Birds and Natural Habitats Regulations).

2. TERMS OF REFERENCE

2.1 Legislative context

This report has been prepared having regard to EC Directive 2009/147/EC[1] 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 Natural 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 Natural Habitats regulations and relevant jurisprudence of the EU and Irish courts.

2.2 Relevant guidance

This report, AA Screening and NIS review 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 2009[2]. In addition, the structure and content of this report is based upon the methodology published by the European Communities in 2002[3] and Commission notice C (2018)[4].

2.3 Consultation

2.3.1 Notified Bodies

Notification of the application was issued to the following organisations:

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

One response was received as follows:

- Irish Coastguard (& National Maritime Operations Centre), Department of Transport, Tourism and Sport dated 04 February 2020.

---

[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] C (2018)4 7621 final "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 17/05/2019)

The following observations were made:

- As per Sea Pollution (Miscellaneous Provisions) Act 2006 Part 3 Para 20 and 21 refers the operator should include in the submission:
  - A risk assessment re hydrocarbon discharge should be included in submission; and
  - A plan for the prevention and minimisation of any accidental discharge.
- Operations such as the "ship to ship" transfer of fuels or other HNS substances which present a hazard to the marine environment are prescribed operations within the Irish EEZ and as such require a permit for operations from the Irish Coast Guard (DTTAS).
- The Operator should update and advise the IRCG of the commencement and suspension or termination of survey operations offshore via the Marine Rescue Coordination Centre (MRCC) Dublin and a Radio Navigational Warning (RNW) should be promulgated via the same.

Appropriate regard has been given to the issues raised in this submission.

2.3.2 Public Consultation

The application by the applicant was advertised by the DCCAE on their website following receipt of the application on 20 January 2020. Invitations for submissions were advertised by DCCAE to be received by close of business on 21 February 2020 to ensure consideration by the Minister.

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

- Response from a private individual (name withheld for privacy) dated 20 February 2020;
- Response from a private individual (name withheld for privacy) dated 20 February 2020;
- Response from a private individual (name withheld for privacy) dated 20 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from a private individual (name withheld for privacy) dated 21 February 2020;
- Response from Not Here Not Anywhere dated 21 February 2020; and
- Response from a private individual (name withheld for privacy) dated 21 February 2020.

2.3.3 General Consultation Responses

The following general responses have been received:

- General economic comments
  - The benefits to the people of Ireland are nominal at best, illusory if honest.
  - Offshore drilling is economically costly, particularly when compared to lack of benefit it provides to the Irish economy. Ths seafood industry, which supports 11,000 jobs, is already suffering due to biodiversity loss, which offshore drilling will only exacerbate. Comparatively, oil and gas extraction in Ireland has only provided 270 long terms jobs. Providence Resources recent layoffs is proof of the industries unstable nature in relation to employment. Furthermore, there is little potential tax benefit to Ireland from the gas industry. Ireland has some of the lowest petroleum extraction tariffs in the world. The Corrib site is yet to pay any taxes to the Irish state despite earning revenues of €734 million in 2018.

- General comments on health safety and environmental issues
  - Fossil fuels have placed us in a pariah category of sovereign states re carbon emissions. We should be urgently pursuing plans to offset the carbon emissions from our farming with rewilding of bogs and public ownership of seaweed beds. The application is disrespectful of our democratically declared climate and biodiversity emergencies and of the Irish people.
  - Fossil fuels are dirty, outdated and morally untenable re our obligations to other low-lying countries.
  - I think at this point it goes without saying the detrimental effects fossil fuels are having on our planet. However, I will say it anyway as this is clearly not being understood in its enormity by those trying to drill for fossil fuels and those who are willing to allow this. It is undisputed by the science and the experts in the fields that we are in the throws of an existential climate crisis and the continued use and exploration of fossil fuels are detrimental to that crisis.
  - I strongly object to this site survey taking place due to my concerns about its impact on climate change. Internationally we need to be cutting down and eliminating the use of fossil fuels if we wish to keep the temperature from rising to a point where it would have a devastating impact on this planet.
  - Any projects intending to continue and expand fossil fuel investment in Ireland are simply not acceptable. As a country ranking amongst with worst in Europe on climate action (2020 Climate Change Performance Index), we must be working to cut down and eliminate fossil fuel and be incentivising progression towards more sustainable alternatives.
  - It is critical that our use of fossil fuels is contained within a wider strategy to minimise the harmful effects such energy sources are having on the environment and climate. Until such a strategy is in place, further drilling and fuel exploration should be curtailed.
  - It is embarrassing that the state is even considering the application following the Taoiseach's grand announcement at last year's United Nations Climate Summit that Ireland would end fossil fuel exploration.
  - We remain convinced that the Department has a moral duty to require considerations of health and safety before permitting any exploration, drilling site surveys or such. We would suggest that this would not be an onerous requirement.
  - I do not want this to happen, because I am extremely worried about the climate crisis because it will threaten the human race's survival by causing sea levels to rise, and causing infectious diseases to spread, as well as other problems.
  - The Intergovernmental Panel on Climate Change has estimated we cannot use all of the fossil fuel reserves that have been found, without irreversibly damaging the climate, so that means we should not explore to find more fossil fuel reserves.
  - Refuse this application and revoke all existing exploration licences under the public interest power in Article 43 of Bunreacht na h'Eireann. The authority has been vested to the State to protect our right to life and right to a healthy environment. Do your duty.
- General comments on legal entities and contractor
  - Providence Resources is very weak financially. After its last CEO resigned over the company's financial difficulties, Providence Resources has recently announced they only have enough funds to last until April. Only companies of financial substance should be allowed to operate in Irish waters. In attempts to save money, Providence Resources laid off most of their technical staff. Although Providence was granted licences for fossil fuel exploration in the past, they do not have the same expertise as now as when those early

licences were granted. This lack of expertise increases the risk to health and safety and to marine life that this site survey poses.

- I also would suggest that a company with a precarious financial situation like Providence Resources shoud not be granted permission to undertake this site survey. It is vital that if this work has to be done then it is done by companies with the resources to successfully undertake it and with the fully complement of technical staff.
- I am also concerned that Providence Resources share price has plummeted from £14.925 at the start of last year to £3.00 as of last week. This collapse in share price will doubtless make the organisation desperate to show profitability in any new endeavour they undertaken, I fear they will take shortcuts with health and safety as well as environmental regulations. Such heavy industry needs to be in calm hands who can be expected to follow guidelines and regulation to the letter, not an ailing Plc desperate to stay out of receivership.
- Exola's parent company, Providence Resources, is in a precarious financial position having been unable to find investors for the project. International investors can see the writing is on the wall for projects like Barryroe and it is clear that Providence no longer have the financial resources or technical expertise required to complete the project.
- As you may be aware Providence Resources has had a very difficult recent history. In particular it was forced during 2019 to shed a number of its staff including those who appeared to us to be providing the technical resources of the group. We are unable to determine from the public documents what technical expertise remains within the group. We believe that this might be insufficient, we have not seen from them evidence that it does have such staff. We believe that it would be correct for the Department to request from the group a disclosure of its resources. Failing our being able to see what they have by way of such staff (if they have any (we believe it is appropriate to be cautious).

  In this context, we note that the Minister may choose to remove exploration licences under terms of Article 52(1)d if there is a material change in the technical competence of the authorisation holder. We respectfully submit that they redundancy program is sufficient grounds to warrant an investigation from the Department as to whether this should now be considered.
- Providence Resources has had a very difficult 2019 financially which was on top of a year end 31.12.18 position which saw its accounts being qualified on the going concern basis (and also on the value of assets).

  We believe that companies should only be allowed to carry out any business whatsoever if there is a reasonable chance of there being able to repay any debts they might accrue or to compensate any party who might be (inadvertently to be sure) damaged.

  The survey will not be able to go ahead without money to pay for it. Surely it is reasonable to require that Exola and Providence Resources are of reasonable substance before permission is granted to carry out any work.

  Its previous fund raising was when the shares of Providence Resources stood above 5 in value. That was already a large fall since the start of the year. They now stand at under 3. It is an issue whether they will be able to raise the money. They need to be able to take the development further, it is not unreasonable surely for them to demonstrate that they can before being permitted to do anything more.
- Under its previous (failed) farm out agreement it surrendered 50% of the Barryroe licence to a Hong Kong entity that promised to fund the future development. The money was not forthcoming and hence Providence Resources troubles. They have announced that they are seeking the return of their 50% (note Landsdowne Oil and Gas has a minority stake) but

that means that they do not have this now. Until this issue is resolved we again believe that approval would be pre-mature.

These comments are in regard to the current economic environment and more general comments in regard to climate change. Appropriate regard has been given to these issues raised in these submissions, however the observations are not considered to be relevant to the scope of this report and therefore are not addressed further.

2.3.4 Project Specific Consultation Responses

The following project specific responses have been received:

Consultee	**Project specific comments**	**Response**
Private Individual	Offshore drilling can have a profoundly negative impact on the local marine environment too. The seismic booming method used for oil and gas exploration kills zooplankton (the basis for the marine food chain), disrupts migratory patterns and causes internal bleeding in whales and dolphons. The offshore drilling process also produces waste drilling muds full of toxic substances like mercury and lead.	Offshore drilling or airguns are not proposed as part of the site survey.
Private Individual	I am concerned about the environmental impact of offshore drilling on the marine environment.	Offshore drilling or is not proposed as part of the site survey.
Private Individual	One blast from oil and gas exploration kills 64% of zooplankton in a region of up to 0.7 miles around the source. These methods have also been found to damage the hearing and health of fish, eventually "disrupting and displacing important migratory patterns and pushing marine life away from suitable habitats" and causing internal bleeding in whales and dolphins.	Airguns are not proposed as part of the site survey.
Private Individual	The offshore drilling process also produces waste drilling muds full of toxic substances like mercury and lead, which "may bioaccumulate and biomagnify in marine organisms, including in our seafood supply".	Offshore drilling is not proposed as part of the site survey.
Private Individual	The potential negative effects on our fishing and tourism sectors (not to mention the reputational damage to Ireland on the international stage) are enormous compared to the tiny benefit of this project in terms of jobs and tax revenues.	The mitigation measures proposed to address this will be assessed as part of the Stage 2 assessment. These will ensure that there are no significant effects on commercial

Consultee	Project specific comments	Response
		fisheries or tourism.
Private Individual	We note that all the documents submitted by Exola are by them. Other submissions we have seen are by independent experts. It can of course be argued that experts who are being remunerated by one party are not independent in some sense but that issue does not arise here as independence is not being asserted. As these documents and opinions come to judgements that involve more than mere statement of facts one must ask to what extent the conclusions are valid. There must surely be some grounds for doubt that there is not at least some bias even if that is unconscious. To be clear we are not asserting that anything is untrue merely that we would expect more independence. Exola and Providence Resource's very survival as companies may depend on their ability to develop the Barryroe site. We would request that the information put forward should be independently verified	The reports submitted by the applicant are independently reviewed. The results of this review are provided in this report in relation to the Appropriate Assessment Screening and Natura Impact Statement. This independent review allows the Environmental Assessment Unit in DCCAE to make the necessary determinations.
Not Here Not Anywhere	At one point (page 10) it is suggest that sound leaks to the side of the boat will be less powerful than that directly below the boat. This is not in of itself an unreasonable assertion but could (and should) be looked at in more detail. Here are some of the factors that occur to us: • How tight are the beams that are emitted (and how can anybody not involved determine this)? • What is the impact of reflection from the sea floor? This will surely depend on the make up of the sea floor which is one of the items of information that the survey is trying to determine. • What effects would there potentially be from wave interference? There could be interference from the base waves emitted, diffusion at the edges and reflection. Could this be constructive interreference leading to localised spots of high amplitude? • The paper states a conservative assumption has been made. What assumption is this? How can anyone know whether the assumption is conservative or not without knowing its value?	It has been deemed that this additional information requested is not required in order to assess the potential effects of the proposed site survey. The conservative approach undertaken in the modelling is considered the worst-case scenario, which in reality is unlikely to be reached.
Not Here Not Anywhere	We believe that the permission from PSE Kinsale to approach with 500 m of the existing infrastructure should have been sought before the	The applicant is responsible for obtaining all

Consultee	Project specific comments	Response
	application was made. Therefore we believe that permission should not be granted (even if there were no other issues which obviously we believe there are).	necessary permissions for the site survey.
Not Here Not Anywhere	We note that there are referenced on page 36 to events due to take place in 2019. This is curious for a document being submitted in 2020. We suggest that Exola should be asked to confirm that this document has been drawn up in 2020 (or shortly before) explicitly for this submission and with current state of knowledge of all issues considered. Were this to be an older document simply resubmitted (or based substantially on one such), we would submit that it was not a valid support of the submission and that a new submission should be required.	The applicant has been asked to correct this authoring error in their documentation.

3. REVIEW OF APPLICANT AA SCREENING REPORT

Table 3.1 provides a summary of the key project information.

Table 3.1: Project Information

Project Title:	Barryroe K Site Survey
Project Type:	Geophysical and Environmental Survey
Applicant:	Exola DAC
Exploration Licence Reference:	SEL 1/11
Date AA Screening Report Received:	20 January 2020

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, would have a significant effect on a European Site.

Where it is determined that AA is required for the 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 review of the applicant's description of the project.

Table 3.2: Description of Project AA Checklist

Brief Project Description:

The site survey will comprise a seabed and shallow geophysical survey and an environmental baseline and habitat assessment survey at the Barryroe K site, together with a single environmental control point approximately 7 km east-southeast. The survey area is approximately 9 km^2 and the greater working area, within which the survey vessel may manoeuvre during line turns and during equipment deployment and recovery, which is approximately 22 km^2.

A geophysical acoustic survey will be conducted using the following equipment. It is expected that the geophysical equipment will provide the required data for habitat assessment, an archaeological assessment of the site as well as confirming the site does not have non-archaeological debris or hazards. The side scan sonar and magnetometer will be towed behind the survey vessel. The echosounders and pinger will be hull mounted. The USBL will be utilised to confirm the precise location of underwater equipment. No seismic activity will be conducted and airguns are not proposed.

- Side scan sonar (expected to be a dual frequency Edgetech 4200 operating at 120 kHz and 410 kHz with an expected pulse interval of approximately 200 ms);
- Single beam echosounder (expected to be a Kongsbery EA400 operating at 200 kHz with an expected pulse interval of approximately 200 ms);
- Multi beam echosounder (expected to be a Kong;
- Pinger sub-bottom profiler;
- USBL; and
- Magnetometer.

A habitats assessment and environmental baseline survey will be conducted at the survey area. Any potentially sensitive habitats identified from anomalies in the geophysical survey data will be investigated using high-resolution video or camera stills. Seabed samples will also be taken at approximately 13 seabed sample locations using a day corer, box corer or dual Van Veen grab, as appropriate, with sampling stations defined by the number of habitats delineated from the geophysical

data, or in the absence of different habitats, a standard cruciform pattern centred on a potential future well location. It is estimated that approximately 1 m^2 of seabed will be disturbed at each location. These samples will be analysed to provide information on benthic faunal community composition and physico-chemical characteristics of the sediments. A habitat assessment and environmental baseline sampling location will also be undertaken outside of the survey area, up to 7 km east-southeast to be used as a control point. One seabed sample location will be used within the control Operations are proposed to take place between 01 April 2020 and 30 November 2020 subject to regulatory approval and vessel availability. If the survey has not commenced within this timeframe, the operations will be undertaken between 01 February 2021 and 30 November 2021, again subject to regulatory approval and vessel availability. The anticipated duration of the survey is approximately three days, excluding port calls, transit and potential weather delays. This survey follows on from the site survey operations undertaken in the Barryroe licence area at the proposed A and B well locations during September 2019. Obtaining data from the Barryroe K site location allows for the emplacement of an additional well to the east of the previously surveyed A and B well locations, in order to further appraise the eastern panel of the Barryroe field. The vessel proposed to be used for the survey is the Gardline vessel MV Kommander. Prior to the commencement of the proposed site survey operations, the applicant may seeks approval from the DCCAE to use an alternative equivalent survey vessel. In this event, the DCCAE should expect to see confirmation that the survey equipment and methodology on any replacement vessel are equivalent to that described in the EIA Screening Report and that the description of the development used to inform the EIA Screening Report is still valid.	
Project Element	**Have these features of the project been identified by the applicant? (If not, please provide details)**
Spatial Extent (size, scale, area etc)	Yes, the information provided by the Applicant meets this requirement.
Supporting Infrastructure	Yes, the information provided by the Applicant meets this requirement.
Transportation Requirements	Yes, the information provided by the Applicant meets this requirement.
Physical changes that will result from the project (e.g. from excavation, dredging)	Yes, the information provided by the Applicant meets this requirement.
Emissions and Waste	Yes, the information provided by the Applicant meets this requirement.
Resource Requirements (e.g. water abstraction)	Yes, the information provided by the Applicant meets this requirement.
Duration of each phase *e.g.* • *Phase 1 Construction* • *Phase 2 Operation* • *Phase 3 Decommissioning*	Yes, the information provided by the Applicant meets this requirement.

The AA screening must consider the effects of the proposed development in combination with other plans and other projects 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) with the proposed project:		
The applicant's AA screening report considers the following projects that might act in-combination with the proposed project: • Greater working area of Barryroe K sire survey areas overlaps with the 500 m safety exclusion zones surrounding two of the Seven Heads field subsea gas production wells (48/24-9 and 48/24-8); • PSE Kinsale Energy Limited is proposing to decommission the Kinsale Head and Seven Heads gas fields and facilities as part of the Kinsale Area decommissioning Project (KADP) in 2020. Exact timings of the decommissioning work is not yet known, however there is a possibility that some decommissioning activities may occur at the time of the survey; Exola are aware of six other potential projects: • Exola, themselves, have consent to survey two more sites at the Barryroe location (C and D sites) between 01 February 20202 and 30 November 2020, although there are currently no operational plans to undertake these surveys, The C&D sites are located approximately 18 km and 4,2 km to the SW respectively; • Europa Oil & Gas (Ireland West) Limited plan to conduct two site surveys at Kiely East and Edgeworth prospects between February and November 2020, 346 km and 231 km NW respectively; • CNOOC Petroleum Europe Ltd plan to conduct an Edge 2D HR seismic and site survey approximately 378 km NE of Barryroe K. It is noted that the survey was scheduled to take place in 2019, but it is understood that some of the survey may take place in 2020; • Vermillion E&P Ireland Ltd plan to undertake a geophysical and visual survey of the offshore facilities in the Corrib field approximately 360 km to the NW of the Barryroe K survey area. This work was originally planned to take place in 2019, however this has likely been delayed and may take place simultaneously with the planned works; • Europa Oil and Gas (Inishkea) Limited plan to undertake a site survey of the Inishkea Prospect (Blocks 18/19 and 18/20), approximately 402 km NW of the Barryroe K survey area. This work was scheduled for 2019, but it is understood to now be taking place between February and November 2020; • The Marine Institute is planning to conduct hydrographic and geophysical surveys in the Celtic Sea as part of the INFOMAR Programme (Integrated Mapping for the Sustainable Development of Irelands Marine Resource) during 2020 using the Celtic Voyager. At its closest point, the Celtic Voyager could be operating approximately 35 km to the southwest of the Barryroe K survey area. It is stated that Exola DAC do not know of any other projects that may have cumulative impacts with the project and it is thought that the list is comprehensive. The applicant should check the available information for the projects listed, for example, a number of projects are listed and it is stated that if these have not occurred in 2019 then they will take place in 2020. The applicant should provide up to date information on the status of these surveys.		
Project Element	**Is the predicted magnitude / extent of identified likely in-combination effects considered by the applicant?**	**Summary**
Spatial Extent (define boundaries for examination of in-combination 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.
Impact Identification	Yes	The applicant has described the potential impacts arising from the project and

(e.g. noise, chemical emissions etc.)		considered which of the impacts identified are relevant to the determination of Likely Significant Effect (LSE) 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 AA screening report considers the designated European sites that may 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 the 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 AA Screening Checklist

NB. Sites presented in Appendix A of the Applicants AA Screening Report and within the Response to Request for Further Information Addendum have been cross referenced against current lists of Natura sites – no omissions of relevant sites have been determined. On this basis the list of sites presented by the Applicant in have been considered below.

Natura site/ Annex IV species identified by assessor	Distance from Project Site (km)	Are the Natura site / Annex IV species identified by the applicant?	Are all the qualifying interests / Annex IV listed by the applicant?	Are direct impacts to the Natura Site / Annex IV species considered by the applicant?	Are indirect impacts to the Natura Site / Annex IV species considered by the applicant?	Are Potential Zones of Influence on the Natura Site / Annex IV species considered by the applicant?	Are in combination effects considered by the applicant?	Briefly summarise whether the applicant's consideration of relevant Natura sites / Annex IV species which may be affected by the proposed project, meets the requirements for a screening opinion:
1. Roaring Bay and Islands SAC (site code 000101)	83 km NW	Yes	Yes	Yes	Yes	Yes	Yes	Consideration of the Qualifying Features harbour porpoise and grey seal meets requirements. It should however be noted that the Applicant refers to the site as a cSAC when it is a SAC
2. Lower River Shannon SAC (site code 002165)	134 km NW	Yes	Yes	Yes	Yes	Yes	Yes	Consideration of the Qualifying Feature bottlenose dolphin meets requirements. It should however be noted that the Applicant refers to the site as a cSAC when it is a SAC

Natura site/ Annex IV species identified by assessor	**Distance from Project Site (km)**	**Are the Natura site / Annex IV species identified by the applicant?**	**Are all the qualifying interests / Annex IV listed by the applicant?**	**Are direct impacts to the Natura Site / Annex IV species considered by the applicant?**	**Are indirect impacts to the Natura Site / Annex IV species considered by the applicant?**	**Are Potential Zones of Influence on the Natura Site / Annex IV species considered by the applicant?**	**Are in combination effects considered by the applicant?**	**Briefly summarise whether the applicant's consideration of relevant Natura sites / Annex IV species which may be affected by the proposed project, meets the requirements for a screening opinion:**
3. Saltee Islands SAC (site code 000707)	142 km NE	Yes	Yes	Yes	Yes	Yes	Yes	Consideration of the Qualifying Feature grey seal meets requirements
4. Blasket Islands SAC (site code 002172)	178 km NW	Yes	Yes	Yes	Yes	Yes	Yes	Consideration of the Qualifying Features harbour porpoise and grey seal meets requirements
5. West Connacht Coast SAC (site code 002998)	281 km NW	Yes	Yes	Yes	Yes	Yes	Yes	Consideration of the Qualifying Feature bottlenose dolphin meets requirements
6. Rockabill to Dalkey Island SAC (site code 003000)	267 km NE	Yes	Yes	Yes	Yes	Yes	Yes	Consideration of the Qualifying Feature harbour porpoise meets requirements
Note: Additional sites may need to be screened in as a consequence of the recognised changes to bird foraging ranges.								

3.4 Screening for Appropriate Assessment of Likely Significant Effects on Natura sites and adverse effects on Annex IV species.

Table 3.5 provides a summary of the likely significant effects identified for the project alone and in combination with 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

Summary of LSE
The applicant's AA Screening Report identified the following impact sources for further consideration in the determination of LSE: Underwater noise generated from the geophysical survey equipment, as well as from the survey vessel itself on three marine mammal species – harbour porpoise, bottlenose dolphin and grey seal. All other sources of impact (Table 4.1 within the applicant's report) are concluded as no likely significant effects (LSE) and therefore have been screened out.
Do you agree with the applicant's AA screening assessment? Why?
It is concluded that a Stage Two AA is required as it is not scientifically possibly to rule out that: • Individual harbour porpoises within the Roaringwater Bay and Island SAC and Blasket Islands SAC will not be impacted by the underwater emissions; • Individual harbour porpoises within the Rockabill to Dalkey Island SAC, East Connacht Coast SAC and Lower River Shannon SAC will not be impacted by the underwater emissions; • Individual grey seals within the Blasket Island SAC, Saltee Islands SAC and Roaringwater Bay and Islands SAC will not be impacted by the underwater emissions; and • Individual bottlenose dolphins within the West Connaught SAC and Lower Shannon River SAC.

3.5 Screening Determination

If significant effects are certain, likely or uncertain then the DCCAE must request the applicant provides a NIS in order for the DCCAE to undertake an AA as the competent authority. The applicant may also choose to recommence the screening process with a modified project that removes or avoids elements that posed risks 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 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, as described by the applicant's documentation.
Is an AA required? (Yes / No / More Information Required?)	Yes, there is potential for likely significant effects of the Project on European sites and species. Therefore, a NIS is required to assess the likely significant effects in view of the European sites and species and their conservation objectives.
What further information is required to inform AA Screening Opinion (if any)?	None. Information was provided by the applicant to be able to conclude that a NIS is required to support the application. Additional information has been requested below to be included in the updated NIS submitted by

	the applicant.

Table 3.7: Recommendation of Screening Determination

Outcome of Screening Report Assessment	**Overall Screening Opinion / AA Required?**
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.	Appropriate Assessment is required because it cannot be excluded on the basis of the information provided by the applicant that the project either individually or in combination with other plans or projects will have a significant effect on an European site or species.
Notes	None

4. STAGE 2 APPROPRIATE ASSESSMENT

4.1 Natura Impact Statements

A NIS[5] 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 integrity[6] 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)	Briefly Explain Answer:
The Conservation Status of relevant Habitats and Species listed under Annex II of the Habitats Directive;	Yes	The conservation status of the relevant species listed under Annex II of the Habitats Directive have been adequately described by the applicant.
The Conservation Status of relevant Species listed under Annex I of the Birds Directive;	No	To be updated with revised foraging range information.
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 adequately by the applicant.
Any management plans associated with relevant European site(s);	Yes	The applicant has stated that there are no site management plans for any of the European sites currently screened in. However, it is thought that more sites should be screened in, therefore this statement may need updating.

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

[6] 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)	Briefly Explain Answer:
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.)	No	Population composition information is only provided some of the time e.g. grey seals, but not harbour porpoise at Roaringwater Bay and Islands SAC. The applicant has not included the conservation status of the species as a whole, as per the Article 17 reporting. Population estimates should be included.
Ecosystem structure and functioning of the site and its overall conservation state;	Yes	Adequate information has been provided by the applicant in this regard as the Applicant has provided a site description and a summary of relevant conservation objectives for each site
The role of the site within the ecosystem region and the Natura 2000 network;	No	This point is not addressed explicitly in the document. A site description is provided for each site, however further available information on the site's importance in the context of the Natura 2000 network should be included.
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.)	No	No information is explicitly provided on this point. However, no management plans are known for the sites included. Conservation objectives are detailed. Information on conservation status and objectives will need to be updated to account for the additional sites to be added to the screening and subsequent NIS 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)	Briefly Explain Answer:
A description of size, scale and objectives of the proposed plan or project;	No	Adequate information has generally been provided by the applicant, however, the report would benefit from the inclusion of the anticipated line kilometres to be surveyed.
A description of the pressures of the proposed plan or project, its likely impacts on the conservation objectives and local site characteristics;	Yes	Adequate information has been provided by the applicant to describe the pressures of the project and its likely impacts on the conservation objectives and local sites characteristics.
Identification of all European sites located within the zone of influence of the proposed plan or project, together with qualifying interests and conservation objectives;	No	The applicant has only detailed sites which contain marine mammals. It is felt that this list needs to be updated to include SPAs once Woodward et al (2019) has been reviewed.
Methodologies, analysis and data sources utilised to demonstrate use of best scientific knowledge;	No	The applicant has used Southall et al. (2007) to inform the hearing thresholds. However, these thresholds have been updated in Southall et al. (2019). The assessment should be updated with the new thresholds.
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 species, and the period within which any such measures shall be carried out by the developer;	No	The mitigation measures listed are not consistent with those detailed within the EIA. Specifically, the differences are with respect to hours of darkness. Within the EIA it states that 'if a break in sound output occurs during hours of darkness, the survey will be suspended until daylight when effective monitoring, as determined by the MMO can be completed before start up.' This text is absent from the NIS (Pg 45). The text therefore needs to be corrected / updated.
An assessment of the scope and scale of residual effects after mitigation (including direct,	Yes	The applicant has provided an assessment of the scope and scale of residual effects after mitigation

NIS Content	Does the applicant's NIS provide sufficient detail to inform an Appropriate Assessment? (Y/N)	Briefly Explain Answer:
indirect, cumulative and in combination effects);		(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 with other existing or consented developments)	No	Additional information is required in regards to the cumulative schemes presented by the applicant and whether these surveys have been undertaken in 2019, or will be undertaken in 2020.

4.2 Stage 2: Appropriate Assessment Determination

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

Table 4.3: Stage 2 Appropriate Assessment Determination Checklist

Does the NIS (and supporting documentation) contain adequate information to complete an AA and to prepare an AA Conclusion Statement?	No
Does the NIS conclude that the proposed project or plan is likely to have an adverse residual effect on the integrity of any European sites or species?	No–the project has the potential to impact harbour porpoise, bottlenose dolphin and grey seals, which are qualifying interest species of the Roaringwater Bay and Islands SAC, Lower River Shannon SAC, Saltee Islands SAC, Blasket Islands SAC, West Connacht Coast SAC and Rockabill to Dalkey Island SAC. The applicant concludes that following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the proposed site survey operations and with the implementation of the mitigation measures proposed, that the proposed Barryroe K site survey is not likely to adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.
Do you agree with the conclusion(s) of applicant's NIS?	No. At this stage, additional information is required in order to

(Briefly explain answer)	allow an AA determination to be made. Additional information to be provided by the applicant includes: • Total line kilometres to be surveyed; • Up to date foraging distances as per Woodward et. al (2019) and the impact that this has on the European sites which have not been screened in; • Use of most up-to-date thresholds for underwater noise impacts to marine mammals, as per Southall et al. (2019); • Population composition information is only provided some of the time e.g. grey seals, but not harbour porpoise at Roaringwater Bay and Islands SAC. The applicant has not included the conservation status of the species as a whole, as per the Article 17 reporting. Population estimates should be included.; • Explicit information on the role of the site within the ecosystem region and Natura 2000 network, for all designated sites. • The mitigation measures detailed within the AA need to match those detailed within the EIA Screening report; • Updated information in regard to the cumulative schemes identified and whether these surveys have been undertaken in 2019 or will be undertaken in 2020; and • Consistency checking the reports for the distances and directions between the survey site and the control site across the reports submitted.

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)**~~

Outcome of Stage 2 Appropriate Assessment	**Stage 2 Appropriate Assessment Determination**
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 alone or in combination with any other 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.~~	