

A photograph of an offshore wind farm at sunset. The sky is a mix of orange, yellow, and grey, with a few clouds. The sea is dark with white-capped waves in the foreground. Three wind turbines are visible, their silhouettes against the bright sky. The overall mood is serene and powerful.

Salamander Offshore Wind Farm

Offshore Application: HRA Derogation Case, Part 1-3

Volume RP.A.3, Report 1: HRA Derogation Case, Part 1-3



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Simply Blue Group

Document Title:	Salamander Offshore Wind Farm HRA Derogation Case, Part 1-3
Document no:	08581085
Project:	Salamander Offshore Wind Farm
Revision	00
Originator	Salamander
Date	April 2024

Revision History:

Revision	Date	Status	Originator	Reviewed	Approved
00	19 April 2024	Final	Salamander	Salamander	Hugh Yendole

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Glossary

Term	Definition
Applicant	Salamander Wind Project Company Limited (formerly called Simply Blue Energy (Scotland) Limited), a joint venture between Ørsted, Simply Blue Group and Subsea7.
Appropriate Authority	The term derives from the Habitats Regulations and relates to the exercise of the functions and duties under those Regulations, in particular with regards to the securing of compensatory measures in order to secure the coherence of the site network. In the context of

	the Salamander Project, the functions and duties are a devolved matter falling under authority of the Scottish Ministers.
Appropriate Assessment (AA)	An assessment to determine the implications of a plan or project on a European site in view of the site's Conservation Objectives. An AA forms part of the Habitats Regulations Appraisal and is required when a plan or project is likely to have a significant effect on a European site.
Birds Directive	European Union Directive 2009/147/EC for the Conservation of Wild Birds.
Compensation / Compensatory Measures	The term compensatory measures is not defined in the Habitats Regulations. Compensatory measures are however, considered to comprise those measures which are independent of the project, (including any associated mitigation), and are intended to offset the negative effects of the plan or project so that the overall ecological coherence of the UK site network is maintained.
Competent Authority	The term derives from the Habitats Regulations and relates to the exercise of the functions and duties under those Regulations. Competent authorities are defined in the Habitat Regulations as including "any Minister, government department, public or statutory undertaker, public body of any description or person holding a public office". In the context of a plan or project, the competent authority is the authority with the power or duty to determine whether or not the proposal can proceed (SNH, 2014).
European site	A Special Area of Conservation (SAC) or candidate SAC (cSAC), a Special Protection Area (SPA) or a site listed as a Site of Community Importance (SCI). Proposed SPAs (pSPAs) and proposed SACs (pSACs) also afforded the same protection as European sites (Scottish Government, 2015) as are Ramsar sites where they overlap with an SPA or SAC. European offshore marine sites are also referred to as "European sites" for the purposes of this document.
European Offshore Marine Sites	A Special Area of Conservation (SAC) or candidate SAC (cSAC), a Special Protection Area (SPA) or a site listed as a Site of Community Importance (SCI) occurring more than 12 nautical miles from Scotland's coasts.
Habitats Directive	European Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.
Habitats Regulations	The Conservation (Natural Habitats, &c.) Regulations 1994 (As Amended); The Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017
Habitats Regulations Appraisal (HRA)	A process which helps determine likely significant effects and (where appropriate) assesses adverse impacts on the integrity of European conservation sites and Ramsar sites (when these are also an SPA or SAC). The process consists of a multi stage assessment which incorporates screening, appropriate assessment, assessment

	of alternative solutions and assessment of imperative reasons of over-riding public interest (IROPI) and compensatory measures.
HRA derogation provisions	The sequential legal tests that must be met if a Competent Authority is to agree to a project notwithstanding a negative assessment of the implications for a European site. This consists of a 3-step process where first it must be demonstrated that no feasible alternative solutions to the project exist, secondly that there are imperative reasons of overriding public interest for the project to proceed and finally that suitable compensatory measures are secured that preserve the coherence of the site network.
In-Combination Effect	The effect of the Salamander Project in-combination with the effects from other plans and projects on the same feature/receptor.
Natura 2000 Network	A coherent European ecological network of Special Areas of Conservation and Special Protection Areas comprising sites located within European Union Member States. This term is now superseded in the UK context by the term 'UK site network'.
Nature Directives	The Habitats Directive and Birds Directive.
Offshore Array Area	The offshore area within which the wind turbine generators, foundations, mooring lines and anchors, and inter-array cables and associated infrastructure will be located.
Report to Inform Appropriate Assessment	The information provided by the Applicant to support the Competent Authority carrying out the Appropriate Assessment and wider HRA. This is has been provided alongside other application documents. (Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment).
Salamander Project	The proposed Salamander Offshore Wind Farm. The term covers all elements of both the offshore and onshore aspects of the project.
Salamander Wind Project Company Ltd	Salamander Wind Project Company Limited (formerly called Simply Blue Energy (Scotland) Limited), a joint venture between Ørsted, Simply Blue Group and Subsea7.
Special Protection Area (SPA)	Special Protection Areas (SPAs) are selected to protect one or more rare, threatened or vulnerable bird species listed in Annex I of the Birds Directive, or certain regularly occurring migratory species.
UK Site Network	The network of European Sites in the UK. Prior to the UK's exit from the EU these sites formed part of the EU ecological network known as "Natura 2000".

Acronyms

Term	Definition
AA	Appropriate Assessment
AEOI	Adverse Effect on Integrity
AR6	Allocation Round Six

CES	Crown Estate Scotland
CO ²	Carbon dioxide
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
EC	European Commission
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EU	European Union
FTE	Full Time Equivalent
GB	Great Britain
GVA	Gross Value Added
HRA	Habitats Regulations Appraisal
HSE	Health, Safety and Environment
IP	Intellectual Property
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effects
MD-LOT	Marine Directorate – Licensing Operations Team
RIAA	Report to Inform an Appropriate Assessment
SAC	Special Areas of Conservation
SNH	Scottish Natural Heritage now NatureScot
SPA	Special Protection Area
SWPC	Salamander Wind Project Company Limited (formerly called SBES)
UK	United Kingdom
WTG	Wind Turbine Generator

Units

Unit	Definition
GW	Gigawatt
km	Kilometre
m	metre
MW	Megawatt

Part 1: Background Information

Legal and project context and HRA process surrounding the application of the derogation provisions of the Habitats Regulations

1 Introduction

1.1 Project Overview

- 1.1.1.1 The Applicant, Salamander Wind Project Company Ltd. (SWPC), a joint venture (JV) partnership between Ørsted, Simply Blue Group and Subsea7, is proposing the development of the Salamander Offshore Wind Farm (hereafter ‘Salamander Project’). The Salamander Project will consist of a floating offshore wind farm (up to 100 megawatts (MW) capacity) approximately 35 kilometres (km) east of Peterhead. It will consist of both offshore and onshore infrastructure, including an offshore generating station (wind farm) of up to 7 WTGs, export cables to landfall, and connection to the electricity transmission network.
- 1.1.1.2 The Salamander Project has been developed as an innovation project within the Innovation and Targeted Oil and Gas (INTOG) leasing round. The INTOG leasing round responds to Scotland’s energy transition and net zero targets by aiming to directly reduce emissions from oil and gas production, as well as boosting investment in innovative technologies in Scottish waters (The Crown Estate Scotland, 2023) to enable the future pipeline of offshore wind projects. The Scottish Government published the Initial Plan Framework Sectoral Marine Plan for Offshore Wind for INTOG in 2022 (Scottish Government, 2022a) and this is expected to be followed by a revised Sectoral Marine Plan addressing INTOG in 2025 (Scottish Government, 2024). The Initial Plan Framework set out the parameters for capacity and location of innovation projects, defining areas of exclusion and requiring that projects remain at or below 100 MW generating capacity. The Crown Estate Scotland highlighted that innovation projects would be targeting development of the supply chain, novel approaches to commercial methods, development of the offshore wind industry into new markets, and cost reduction opportunities.
- 1.1.1.3 The Salamander Project will act as a stepping-stone project designed to stimulate and support innovative, renewable supply chains in Scotland, readying them for the roll out of utility-scale projects, thus directly enabling the ScotWind leases. These technologies will be critical to ensuring floating offshore wind energy is deliverable, affordable for consumers and crucially, contributes value to local industry and business within Scotland.
- 1.1.1.4 The Salamander Project will provide a critical enabling role towards achieving Scotland’s net-zero target for 2045 along with the other interim targets set out in the Climate Change (Scotland) Act 2009 and the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Once operational, the Salamander Project will itself, also directly contribute to these targets through the generation of clean renewable energy. The Salamander Project will contribute to the wider UK target to produce 50 GW of operational offshore wind energy by 2030, the Scottish Government’s ambition within the Offshore Wind Policy Statement (2020a) and the Draft Energy Strategy and Just Transition Plan for deployment of up to 11 GW installed offshore capacity by 2030.
- 1.1.1.5 Many of the activities associated with the Construction and Operation phases of the Salamander Project are licensable marine activities as defined under the Marine (Scotland) Act 2010 applicable within the Scottish inshore region (between 0 and 12 nautical miles (nm)), and in the Scottish offshore region (between 12 and 200 nm) under the Marine and Coastal Access Act 2009. The construction and operation of the generating station also requires consent under Section 36 of the Electricity Act 1989. An application to obtain the relevant Marine Licences and Section 36 consent related to the offshore components of the Salamander Project (hereafter ‘The Application’) has been made to Scottish Ministers and is to be considered on their

behalf by the Marine Directorate - Licensing Operations Team (MD-LOT) as well as by relevant statutory and non-statutory stakeholders.

In response to the legislative requirements relevant to Environmental Impact Assessment and Habitats Regulations Appraisal, the Application included an offshore Environmental Impact Assessment Report (EIAR) (with non-technical summary) and a Report to Inform Appropriate Assessment (RIAA). Full consideration of the legislative and regulatory requirements relevant to the Application are detailed within the EIAR (**Volume ER.A.2, Chapter 2: Legislative and Regulatory Requirements**), where specific to the Habitats Regulation Process within the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment, section 1.6**) and detailed further where relevant to this document in **Section 3**.

1.2 Consultation

- 1.2.1.1 During pre-application, the Applicant has engaged with MD-LOT along with other relevant statutory and non-statutory stakeholders. Extensive feedback was gathered via consultation on the EIA Scoping Report (SBES, 2023a) and HRA Screening Report (SBES, 2023b). This has been supplemented with Regulator and Stakeholder meetings spanning the duration of the pre-application period as detailed within the EIAR (**Volume ER.A.2, Chapter 5: Stakeholder Consultation**).
- 1.2.1.2 The Salamander Project was advised by MD-LOT that, due to the developments proposed location, consideration of a derogation package may be required. It was understood that this was on the basis that the Northeast region of Scottish waters has notable constraints regarding the potential effects on ornithological receptors by the pre-consent pipeline of offshore wind farm proposals. Further engagement with MD-LOT informed a project decision to prepare a derogation case in support of the application on the basis that it would not prejudice the conclusions of the Competent Authority's Appropriate Assessment.
- 1.2.1.3 In recognition of the timeline constraints that the Salamander Project faces as a 'stepping-stone' INTOG project, it was agreed with MD-LOT that work to develop a finalised compensation plan would be staggered to follow the application submission date. At the point of application submission, a compensation plan roadmap document has been prepared to provide comfort to Scottish Ministers. This provides a shortlist of measures that, whilst not subject to extensive consultation prior to submission, will be further evaluated and refined into a finalised plan following application submission and prior to the consent decision of the Competent Authority (In this case the Scottish Ministers).
- 1.2.1.4 The Applicant recognises the importance of engaging with the relevant stakeholders with respect to the development of any potential compensation measures, as their knowledge is important. It is the intention of the Applicant to proceed with this process via a series of meetings and workshops held with the relevant stakeholders in line with the road map.

1.3 The Purpose and Scope of this Submission

- 1.3.1.1 The Conservation (Natural Habitats, &c.) Regulations 1994 (As Amended); The Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017, are referred to collectively as the 'Habitats Regulations'. These Regulations give legal protection to European sites in Scottish inshore and offshore waters. European sites are defined as Special Areas of Conservation (SACs) for the conservation of natural habitats, fauna and flora and Special Protection Areas (SPAs) for the protection of all wild birds, their nests, eggs and habitats. Proposed SPAs (pSPAs) and proposed SACs (pSACs), sites which have not yet been officially designated, are offered the same legal protection as fully designated

European sites. Further detail on the legal background, framework and process associated with European sites and their protection is provided in **Section 3**.

- 1.3.1.2 A Habitat's Regulation Appraisal (HRA) is required to ascertain if the Salamander Project may adversely affect the integrity of a European site in accordance with the provisions of the Habitats Regulations. For the purposes of the Application, Scottish Ministers are the Competent Authority responsible for undertaking the HRA. Where an adverse effect is predicted, the Habitats Regulations acknowledge that there may be imperative reasons of overriding public interest for some plans and projects to proceed i.e., the public interest in the plan or project can outweigh the possible harm to a European site, provided that there is an absence of available alternative solutions and that the harm is adequately compensated. These further stages of the HRA process represent legal tests that are referred to hereafter as the HRA derogation provisions and are addressed with further background detail in **Section 3**.
- 1.3.1.3 The Applicant is required to present such information as the Competent Authority, may reasonably require enabling it to undertake a Habitats Regulations Appraisal (HRA) including information supporting the application of the HRA derogation provisions where it may be required.
- 1.3.1.4 This report constitutes a 'derogation case' for the Salamander Project and forms part of the Marine Licence and S.36 applications. Its purpose is to provide information to demonstrate that the legal tests of the HRA derogation provisions can be met. The derogation case addresses the relevant legislative and project specific contextual information, as well as providing clear demonstrations in subsequent sections that there are no alternatives to the Salamander Project and that there are imperative reasons of overriding public interest (IROPI) for proceeding with the Salamander Project. Further detail is provided as to how this is structured in **Section 1.4**.
- 1.3.1.5 In addition to this report, an overview of compensation measures is provided as a separate document (**Volume RP.A.3, Report 2: HRA Derogation Case, Compensation Plan Roadmap**). This second component document address the issue of identifying and securing appropriate compensatory measures and is described in more detail in **Section 1.5**. In addition to this report, an overview of compensation measures is provided as a separate document (**Volume RP.A.3, Report 2: HRA Derogation Case, Compensation Roadmap**). This second component document address the issue of identifying and securing appropriate compensatory measures and is described in more detail in **Section 1.5**.

1.4 The Structure of this Report

1.4.1.1 This report is structured as follows:

- **Part 1 (Sections 1 - 7)** provides the project background and legal context surrounding the application of the HRA derogation provisions and sets out:
 - I. An overview of the legal context and HRA process (**Section 3**)
 - II. Relevant European site features (**Section 5**) and
 - III. Potential impacts on the relevant features of the European Sites (**Section 6**).
- **Part 2 (Sections 8 - 14)** comprises a **Report to Demonstrate No Alternatives Solutions**. This part examines whether there are any feasible alternative solutions to the Salamander Project that meet its core project objectives and concludes that there are none.
- **Part 3 (Sections 15 - 17)** comprises a **Report to Demonstrate Imperative Reasons of Overriding Public Interest**. This part identifies the IROPI that would enable a decision by the Scottish Ministers to authorise the Salamander Project notwithstanding a conclusion of AEOI.

1.5 Report on Compensatory Measures

- 1.5.1.1 A separate report addressing compensatory measures (**Volume RP.A.3, Report 2: HRA Derogation Case, Compensation Roadmap**) has also been produced and submitted with the Application. However, as detailed in **Section 1.2**, it was agreed with MD-LOT, that this compensation road map document would not contain a full suite of finalised compensatory measures. In its place, the compensation roadmap document details the ranking and analysis undertaken to identify the shortlisted measures. The document also outlines a timeline and process for further refinement of these into a fully developed compensation plan that will be required in the course of the application and prior to the Competent Authority's Appropriate Assessment determination.
- 1.5.1.2 The Applicant provides this report on compensatory measures with reference to the precautionary basis of the submission as detailed within **Section 2.1** below.

1.6 Supporting Information

- 1.6.1.1 This document refers to material that has been submitted as part of the Application. For brevity, where references are made to material submitted as part of the Application, this information is not reproduced in full here.
- 1.6.1.2 A list of the documents supporting the derogation case is provided in **Table 1-1**.

Table 1-1 Other application documents relevant to the derogation case

Document title	Document ref. no.	Volume	Chapter	Annex
<i>Application Documents</i>				
Marine Licence Application Form	AD.A.3	3	-	-
S.36 Application Letter	AD.A.4	4	-	-
<i>EIAR</i>				
Site Selection and Consideration of Alternatives	ER.A.2.3	2	3	-
Project Description	ER.A.2.4	2	4	-
Stakeholder Consultation	ER.A.2.5	2	5	-
Commitments and Mitigations Register	ER.A.4.6.1	4	-	6.1
Offshore and Intertidal Ornithology	ER.A.3.12	2	12	
Offshore Ornithology Baseline Data Report	ER.A.4.12.1	4	-	12.1
Collision Risk Modelling Report	ER.A.4.12.3	4	-	12.3
Population Viability Analysis (PVA)	ER.A.4.12.4	4	-	12.4
Displacement Assessment	ER.A.4.12.5	4	-	12.5
Displacement Assessment SeabOrd	ER.A.4.12.6	4	-	12.6
Offshore Ornithology Consultation Report	ER.A.4.12.7	4	-	12.7
Offshore Ornithology Regional Populations Report	ER.A.4.12.8	4	-	12.8
<i>Accompanying Reports</i>				
Offshore Report to Inform Appropriate Assessment	RP.A.1.1	1	1	-
Apportioning Report	RP.A.2.1	2	-	2.1
Site Specific Population Viability Analysis	RP.A.2.2	2	-	2.2
Compensation Plan Roadmap	RP.A.3.2	3	2	-

2 The Precautionary Basis of this Submission

2.1 The Need for a Derogation

2.1.1.1 Information is provided in the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**) to inform an Appropriate Assessment (AA) for all the sites and features screened in. The results of screening are presented in the Offshore RIAA Appendix A: 'Update to Stage 3 Screening for Assessment in Stages 4 and 5', with the conclusions of the assessment presented in Section 13 of the Offshore RIAA. The assessment is made on the basis of defined parameters (to inform the approach to assessing collision risk and distributional response), to provide the Applicant's approach and the SNCB approach, with these parameters defined in **Sections 7.2.2** and **7.2.8** of the Offshore RIAA. In addition, for the in-combination assessment only, further scenarios are included to allow for a with and without Berwick Bank Offshore Wind Farm scenario (as requested by NatureScot, see **Table 1-2** of **Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**). This information enables an assessment of each species listed in **Section 6**.

2.1.1.2 The conclusions of the Offshore RIAA are based on the Applicant's approach, with the SNCB's approach provided for information. The conclusions for the Salamander Project alone are for no adverse effect on integrity (AEOI) in all cases regardless of the approach to assessment. However, in-combination the assessment was not able to conclude no AEOI for at least some of the assessment scenarios. On the basis of the Offshore RIAA conclusions the Applicant includes kittiwake within this derogation case in full for the following sites:

- i. Buchan Ness to Collieston Coast SPA;
- ii. Fowlsheugh SPA;
- iii. Outer Firth of Forth and St Andrews Complex SPA, and;
- iv. Troup, Pennan and Lions Head SPA

2.1.1.3 Regarding the Outer Firth of Forth and St Andrews Complex SPA, no reference population for kittiwake is set at the site. Instead, as per the conservation and management advice for the site (NatureScot and JNCC, 2022), population impacts were considered in relation to site reference populations for functionally linked sites, of which Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA and Troup, Pennan and Lions Head SPA are noted. Therefore, Outer Firth of Forth and St Andrews Complex SPA is included in full within this derogation case on the basis of the Salamander Project's predicted impacts on those linked sites noted above. However, as a result there are not apportioned population impacts specific to this site that require compensatory measures.

2.1.1.4 A further summary of the predicted impacts on European sites is provided in **Section 6**.

2.2 Information Provided on a Without Prejudice Basis

2.2.1.1 Notwithstanding the conclusions of the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**), which are based on the Applicant's approach to assessment, there are instances where the application of the higher end of values used within the SNCB assessment approach or the inclusion of impacts associated with Berwick Bank Offshore Wind Farm (hereafter Berwick Bank) could result in the assessment being unable to rule out AEOI in-combination with other plans or projects. Where the Offshore RIAA identifies these instances they are included within the derogation case on a without prejudice basis.

2.2.1.2 In addition to this the Applicant has had regard to advice provided by MD-LOT to other offshore windfarm proposals currently awaiting consent determinations and subject to derogation. The projects with a public domain derogation case (as of the time of writing, March 2024) that include one or more of the sites and

features where the Salamander Project has potential to contribute to an in-combination effect are Berwick Bank (SSE Renewables, 2022a and 2023), Green Volt (Green Volt, 2023) and West of Orkney (West of Orkney, 2023). All three projects are pending a decision and therefore the final position as regards conclusions on AEOI has yet to be determined by the Competent Authority. Sites and species that are featured within other offshore wind project's derogation cases that are also subject to assessment within the in-combination assessment of the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**) have been included within this derogation case also on a without prejudice basis. These sites and species have been included despite Offshore RIAA conclusions ruling out AEOI.

2.2.1.3 Therefore, several sites and species have been included within this derogation case to provide information on a precautionary basis only. The Applicant does not accept that the application of the HRA derogation provisions are necessary in all instances but has provided the information necessary to support a HRA derogation case for the Salamander Project, which could be relied upon by the Scottish Ministers if required. With exception of those sites and species noted as being subject to a full derogation case in **Section 2.1**, this derogation case notes where sites and species are featured in the derogation case in 'full' or where they are included on a 'without prejudice' basis.

2.2.1.4 Sites and species included on a without prejudice basis were identified and categorised in the following way:

- Where the Salamander Project's impact is >0 bird mortalities per year and where the Offshore RIAA conclusion could not rule out AEOI in-combination of a site and species in at least one assessment scenario, e.g. SNCB approach with or without Berwick Bank.
- Where the Salamander Project's impact is predicted as >0 bird mortalities per year, and the site/species is already subject to a derogation case in the public domain, regardless of the conclusions of the Offshore RIAA e.g. all assessment scenarios may conclude no AEOI.

2.2.1.5 **Section 6.2** provides further information on the sites and species featured within the derogation case on a without prejudice basis with a summary provided in **Table 6-1**.

3 The Legal Framework and Habitats Regulations Appraisal Process

3.1 The Nature Directives and UK Habitats Regulations

3.1.1.1 The EU Birds Directive and Habitats Directive, collectively referred to as the Nature Directives, seek to conserve particular natural habitats and wild species across the EU by, amongst other measures, establishing a network of sites ("European sites"). The Habitats Directive also sets out the requirements concerning the authorisation of plans or projects which may adversely affect European sites via Articles 6(3) and 6(4) which informs the basis of the HRA process.

3.1.1.2 The Conservation (Natural Habitats, &c.) Regulations 1994 (1994 No. 2716); The Conservation of Habitats and Species Regulations 2017 (2017 No. 2017); and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (2017 No. 1013) are the principal pieces of secondary legislation which, prior to the UK's departure from the European Union, transposed the terrestrial and offshore marine aspects of the EU Habitats Directive (Council Directive 92/43/EEC) and certain elements of the EU Wild Birds Directive (Directive 2009/147/EC) into the domestic law that applies. Collectively these secondary pieces of legislation are referred to as the 'Habitats Regulations'.

3.1.1.3 The Habitats Regulations define European sites as Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Sites of Community Importance (SCI). Proposed SPAs (pSPAs) and proposed SACs (pSACs) are also afforded the same protection as European sites (Scottish Government, 2015) as are Ramsar

sites where they overlap with an SPA or SAC. European offshore marine sites are also referred to as “European sites” for the purposes of this document.

3.2 The Nature Directives and Implications of EU Exit

3.2.1.1 Following the United Kingdom’s (UK) departure from the European Union (EU) on 31 December 2020 (EU Exit), the UK is no longer an EU Member State. Through the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019 (“EU Exit Regulations”), the HRA process implemented under the Habitats Regulations continues to apply, subject to minor changes (Scottish Government, 2020b).

3.2.1.2 While the basic legal framework for HRA is maintained, there are technical changes to ensure continued operability. For example, functions previously undertaken by the EC in designating future European sites and providing opinions on IROPI have been transferred to the appropriate authority in the UK (in this case Scottish Ministers for devolved matters relating to Scotland). Accordingly, the United Kingdom’s withdrawal from the EU is considered to have no material bearing on the requirement or process for the HRA of the Salamander Project. The Applicant will comply with the requirements of the Habitats Regulations as amended and in force as at the date of the application.

3.2.1.3 In accordance with the present position on HRA terminology, this report will still refer to “the Habitats Regulations”, “European sites” and HRA caselaw. However, European sites in the UK are collectively termed the “UK site network” and no longer form part of the Natura 2000 network. The HRA will not refer to any obligations under the Nature Directives but may have regard to European Commission (EC) guidance, so far as it is relevant.

3.3 The Habitats Regulations Appraisal Process

3.3.1.1 The process encompassing the authorisation of plans or projects which may adversely affect European sites is commonly referred to in the UK as HRA. The HRA process is multi-stage and in practice, there can be a degree of overlap between stages resulting in the potential for an iterative process. Notwithstanding this, the process is generally described as sequential, with subsequent stages consequent upon and following from the conclusions of prior stages. There is some variation in HRA guidance as to the way in which these key outcomes of the HRA process are broken down into defined stages. HRA guidance in place from NatureScot (2024) is derived directly from the relevant provisions of the Habitats Regulations and is detailed in **Table 3-1**.

3.3.1.2 Where in this Report the need arises to refer to a specific domestic legislative provision, for simplicity reference is made only to the Conservation (Natural Habitats, &c.) Regulations 1994 (1994 No. 2716). However, the relevant provisions in the different sets of Habitat Regulations are materially the same and there is no legal or practical need to differentiate between them in this Report.

Table 3-1: Habitats Regulations Appraisal Process as defined by NatureScot Guidance relative to the relevant articles of the Habitats Directive and provisions of the Habitats Regulations.

Habitats Directive Provision	Habitats Regulations Provision	HRA stages (per NatureScot (2024) Guidance)
Article 6(3)	48	Stage 1 - What is the plan or project? Stage 2 – Is the plan or project directly connected with or necessary to site management for nature conservation?

Habitats Directive Provision	Habitats Regulations Provision	HRA stages (per NatureScot (2024) Guidance)
		<p>Stage 3 – Is the plan or project (either alone or in combination with other plans or projects) likely to have a significant effect on a European site?</p> <p>Stage 4 – Undertake an appropriate assessment of the implications for the site in view of its conservation objectives</p> <p>Stage 5. Can it be ascertained that the proposal will not adversely affect the integrity of the site?</p>
Article 6(4)	49 & 53	<p>Stage 6. Are there alternative solutions?</p> <p>Stage 7. Would a priority habitat or species be adversely affected?</p> <p>Stages 8 and 9. Are there imperative reasons of overriding public interest? (Including the duty to secure any compensatory measures)</p>

3.4 Habitats Regulations Appraisal Stages 1 – 5: Likely Significant Effects (LSE) and Appropriate Assessment (AA).

3.4.1.1 The need for and application of the HRA derogation provisions flows from the outputs of HRA Stages 1 -5. The requirements of Stages 6 – 9 are applied based upon the nature and the extent of any AEOI identified through Stages 1 - 5. HRA Stages 1 - 5 require that any project likely to have a significant effect on a European site (alone or in combination) must be subject to an AA of the implications for that European site in view of the site's conservation objectives. Subject to the HRA derogation provisions (Stages 6 - 9), the project must not be authorised if it is concluded, based on the AA, that there would be an AEOI of any European site(s).

3.5 Applicant's Stages 1 - 5 Conclusions

3.5.1.1 The Application includes the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**) which provides an update to the HRA screening report (SBES, 2023b) consulted on alongside the EIA scoping report and provides evidence to inform the Competent Authority's assessment and determination of Stage 3 (screening for likely significant effects). In respect of the Maximum Design Scenario the Offshore RIAA concludes that a likely significant effect could not be discounted for several SPAs due to potential for impacts on qualifying seabird species. In addition, LSE could not be excluded for one SAC due to impacts the qualifying species: Bottlenose dolphin. All relevant European Sites and their qualifying species were progressed to Stage 5, Appropriate Assessment.

3.5.1.2 In respect of the Maximum Design Scenario at the point of application the Offshore RIAA concludes that AEOI can be ruled out beyond reasonable scientific doubt for the Moray Firth SAC and the qualifying species bottlenose dolphin, both alone and in-combination. The Offshore RIAA also concludes AEOI can be ruled out beyond reasonable scientific doubt for all SPAs and their qualifying species for project alone impacts. However, where in-combination impacts are considered, AEOI cannot be ruled out in some instances. Notably for kittiwake at Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA, Outer Firth of Forth and St Andrews Complex SPA and Troup, Pennan and Lion's Head SPA.

3.5.1.3 In all other instances the Applicant considers AEOI in-combination can be ruled. However, without prejudice to the Applicants position, the Applicant has had regard to SNCB general and project specific advice, and on that basis has included additional sites and species for consideration within the derogation, should the Scottish Ministers deem it necessary.

3.5.1.4 Further information on the outcomes of assessment and the sites and species considered within the derogation are provided in **Section 6**.

3.6 Habitats Regulations Appraisal Stages 6 – 9: Derogation Provisions

3.6.1.1 The HRA derogation provisions allow a project found to give rise to an AEOI to be authorised, provided Scottish Ministers are satisfied that the following tests are met in sequential order:

- There are no feasible "alternative solutions" to the project; and
- The project must proceed for Imperative Reasons of Overriding Public Interest (IROPI).
- Compensatory measures are secured that ensure that the overall coherence of the network of European sites is maintained.

3.6.1.2 The **Table 3-2** presents the statutory considerations for determining the alternatives and IROPI tests.

Table 3-2: Regulations relating to alternative solutions and IROPI (as amended post-Brexit)¹

Regulation	Considerations of overriding public interest
49(1)	<i>If they are satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), the competent authority may agree to the plan or project notwithstanding a negative assessment of the implications for the site.</i>
49(2)	<i>(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either-</i> <i>(a) reasons relating to human health, public safety, or beneficial consequences of primary importance to the environment; or</i> <i>(b) other reasons which in the opinion of the European Commission are imperative reasons of overriding public interest.</i>

¹ As per the Conservation (Natural Habitats, &c.) Regulations 1994 (1994 No. 2716)

3.6.1.3 The approach taken by the Applicant with regard to "alternative solutions" is set out in **Part 2** of this report and the case for IROPI is presented in **Part 3**.

3.6.1.4 If satisfied that there are no feasible alternative solutions and the Salamander Project must proceed for IROPI, Scottish Ministers will be under an obligation to ensure that any necessary compensatory measures are secured. The relevant statutory requirements in respect of compensation are set out in **Table 3-3**

Table 3-3: Legal text of Regulations relating to compensatory measures (as amended post-EU exit)²

Regulation	Compensatory measures
53	<p><i>Where in accordance with regulation 49 (considerations of overriding public interest)–</i></p> <p><i>(a) a plan or project is agreed to, notwithstanding a negative assessment of the implications for a European site, or</i></p> <p><i>(b) a decision, or a consent, permission or other authorisation, is affirmed on review, notwithstanding such an assessment,</i></p> <p><i>the Secretary of State shall secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected.</i></p>

3.6.1.5 The Habitats Regulations do not define what is meant by or may comprise "compensatory measures" or when they must be delivered. There is also no definition of the "overall coherence of Natura 2000" (i.e. the UK site network). In principle, both are broad concepts. The limited case law on compensation confirms only:

- Compensation is distinct from mitigation (i.e., measures which prevent, avoid, or reduce the harm to the integrity of the affected European site).³
- Compensation can be delivered inside or outside a European site⁴.

3.6.1.6 As there is no binding EU or UK case law that fixes the precise parameters of or timing for delivery of compensation, there is a degree of flexibility and it will be a matter of judgement for Scottish Ministers to determine what is "necessary" by way of compensation, acting reasonably and proportionately. The Scottish Ministers may have regard to European Commission (EC) opinions and guidance.

3.6.1.7 Following the UK's departure from the EU, the Scottish Government (2020b) has issued the guidance 'EU Exit: habitats regulations in Scotland' which addresses the changes made by the Conservation (Natural Habitats, &c.) (EU Exit) (Scotland) (Amendment) Regulations 2019 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 as they relate to HRA. With respect to compensation, no changes or stipulations are set out in the guidance other than to note that adaptations to the UK site network may include the incorporation in the network of areas which compensate for the loss of other areas within the network as a result of a project proceeding for IROPI reasons, thereby confirming that compensation can be delivered inside or outside a European site.

² As per the Conservation (Natural Habitats, &c.) Regulations 1994 (1994 No. 2716)

³ Case C-521/12 Briels and Others, paragraphs 38 – 39

⁴ Case C-521/12 Briels and Others, paragraphs 38 – 39

4 Guidance Documents

4.1 Key Sources

4.1.1.1 The following Scottish, UK and EC guidance documents address the HRA derogation provisions and are referred to in this submission, where applicable and appropriate.

4.1.2 Scottish Guidance

- NatureScot (2022b) European Site Casework Guidance: How to consider plans and projects affecting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)
- NatureScot (2023) Habitats Regulations Appraisal (HRA).
- Scottish Government (2020). EU Exit: The Habitats Regulations in Scotland.
- Scottish Government (2018). Marine Scotland Consenting and Licensing Guidance: For Offshore Wind, Wave and Tidal Energy Applications.
- DTA Ecology (2021a: in draft). Policy guidance document on demonstrating the absence of Alternative Solutions and imperative reasons for overriding public interest under the Habitats Regulations for Marine Scotland.
- DTA Ecology (2021b: in draft) Framework to Evaluate Ornithological Compensatory Measures for Offshore Wind. Process Guidance Note for Developers. Advice to Marine Scotland.

4.1.3 UK Guidance

- DTA (2021c) The Habitats Regulations Assessment Handbook.
- Department for Environment Food & Rural Affairs (Defra). Policy paper Changes to the Habitats Regulations 2017 - Published 1 January 2021 ("DEFRA, 2021a")
- Defra. Habitats regulations assessments: protecting a European site. Guidance. 24 February 2021. ("DEFRA, 2021b")
- Habitats Directive: guidance on the application of Article 6(4), Department for Environment, Food and Rural Affairs (DEFRA) December 2012 ("DEFRA 2012")
- Defra. Best practice guidance for developing compensatory measures in relation to Marine Protected Areas. July 2021. Version for consultation.
- Defra. Consultation on policies to inform updated guidance for Marine Protected Area (MPA) assessments. February 2024. Version for consultation.

4.1.4 EU Guidance

- EC (2019): Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC; and
- EC (2007): Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC: clarification of the concepts of Alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission.
- EC Methodological Guidance for the Habitats Directive: Assessment of plans and projects significantly affecting Natura 2000 sites, methodological guidance on the provisions of Articles 6(3) and 6(4) of the Habitats Directive (2000) ("EC Methodological Guidance");
- Managing Natura 2000 Sites - The provisions of Article 6(3) of the 'Habitats' Directive 92/43/EEC (2000) ("MN 2000"), first published in 2000 and updated in November 2018.

4.2 Status and Weight of UK and EC Guidance

4.2.1.1 Scottish Government’s (2020b) guidance note ‘EU Exit: The Habitats Regulations in Scotland’ advises that existing guidance should continue to be used after exit day. Therefore reference to EC guidance on the interpretation of key HRA concepts post EU-Exit remains relevant.

5 Relevant Features and Condition of the European sites

5.1.1.1 Offshore RIAA Appendix B ‘Information on the Designated Sites Screened in’ (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**), provides links to the relevant information about the sites, the relevant features, the conservation objectives, including the range of ecological attributes that are most likely to contribute to the site’s overall integrity and the evidence base. The Offshore RIAA then provides individual assessments for each screened in feature, having regard to the relevant conservation objectives and feature condition assessment where available. The purpose of the derogation case is not to reiterate this information in full. **Table 5-1** provides a brief summary of the species and sites featured within the derogation case. A summary of impacts and Offshore RIAA conclusions for each species and site is provided in **Table 6-1** with further detail set out below in **Section 6**.

Table 5-1 Relevant species and sites for the derogation case with condition status where available

Species	Sites	Condition Assessment
<i>Full derogation case</i>		
Kittiwake	Buchan Ness to Collieston Coast SPA	Unfavourable No change
	Fowlsheugh SPA	Favourable Maintained
	Outer Firth of Forth & St Andrews Bay Complex SPA	Favourable Maintained
	Troup Pennan and Lion’s Head SPA	Unfavourable No change
<i>Without prejudice derogation case</i>		
Kittiwake	East Caithness Cliffs SPA	Favourable Maintained
	Farne Islands SPA	None available
	Forth Islands SPA	Unfavourable Declining
	North Caithness Cliffs SPA	Unfavourable Declining
	St Abb’s Head to Fast Castle SPA	Unfavourable Declining
Razorbill <i>Alca torda</i> (hereafter referred to as Razorbill)	East Caithness Cliffs SPA	Favourable Maintained

	Fowlsheugh SPA.	Favourable Maintained
Atlantic Puffin <i>Fratercula arctica</i> (hereafter referred to as Puffin)	Forth Islands SPA	Favourable Declining
Northern Gannet <i>Morus bassanus</i> (hereafter referred to as Gannet)	Forth Islands SPA	Favourable Maintained
	Hermaness Saxa Vord & Valla Field SPA	Favourable Maintained
	Outer Firth of Forth & St Andrews Bay Complex SPA	Favourable Maintained

6 Impacts on European Site Features

6.1 Summary of pressures

6.1.1.1 The Offshore RIAA (**Section 7, Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**) identified collision risk and distributional responses as Operation and Maintenance Phase impacts that had potential to result in some mortality for the four seabird species subject to this without prejudice derogation case:

- Kittiwake: Collision risk and distributional responses
- Razorbill: Distributional responses
- Puffin: Distributional responses
- Gannet: Collision risk and distributional responses

6.1.1.2 Collision risk for seabirds may apply when birds fly through operational offshore windfarms for example whilst foraging for food, commuting between breeding sites and foraging areas, or during migration. Collision risk refers to the potential for a bird(s) to collide with a turbine or its blades, with the potential for mortality to result.

6.1.1.3 Distributional responses refer to the physical disturbance of birds and the displacement and / or barrier effect that could occur if birds avoid the area occupied by the Salamander Project during operation. A distributional response may impact bird populations by affecting site usage which may be for foraging, resting or moulting purposes. As a result of a distributional response, an individual bird may experience a decrease in fitness, due to the effect of re-locating to alternative foraging grounds and or changes to energy budgets due to the increased energy expenditure when avoiding a wind farm. These impacts, in turn, may have indirect effects on birds in areas that may be some distance from the wind farm including reduced energy acquisition as a result of increased competition at other foraging sites which can result in further reductions in fitness affecting reproductive success.

6.1.1.4 It should be noted that total predicted bird mortalities from the EIAR (**EIAR Volume A.3, Chapter 12: Offshore and Intertidal Ornithology**) will not be directly comparable to those apportioned to individual SPAs. This is a result of the total number of individual birds being apportioned to more than one SPA. For example, if the EIAR predicted 10 birds in total, with the RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**) needing to apportion these between 3 SPAs, then each individual SPA would be

expected to have less than 10 birds apportioned to it. Detail on the apportionment is provided within the RIAA Apportioning Report (**Volume RP.A.2, Annex 1: Apportioning Report**).

6.2 Summary of impacts

- 6.2.1.1 A range of species-specific assessment parameters have been applied within the Offshore RIAA for assessment of distributional responses and collision risk, as identified within NatureScot guidance⁵. Alongside this the Offshore RIAA also presents the ‘Applicant’s Approach’ parameters which in some instances deviate from the guide values presented within NatureScot guidance. Clear evidence-based justifications are provided, where deviations from NatureScot guide values are applied within the Applicant Approach (**Section 7.2, Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**).
- 6.2.1.2 Regarding distributional responses in particular, the Applicant strongly maintains that the more precautionary displacement and mortality rates identified within the NatureScot guidance have the potential to significantly over-estimate the likely impact of the of the Salamander Project. Crucially, due regard should be given to the limited scale of the Salamander Project and resultant implication for impacts on seabird fitness and energy budgets, ultimately resulting in mortality. Furthermore, **Section 7.2** of the Offshore RIAA outlines a range of studies and guidance notes that indicate the lower displacement and mortality rates are relevant for auk species, gannet and kittiwake^{6,7,8,9}.
- 6.2.1.3 The Offshore RIAA concluded that project alone AEIOI could be ruled out for all European sites. At the request of NatureScot and MD-LOT, the range of assessment parameters presented within the Offshore RIAA are applied to separate assessment scenarios for the in-combination assessment, showing conclusions with and without, Berwick Bank.
- 6.2.1.4 The conclusions within the Offshore RIAA identified four European sites at which an AEIOI in-combination could not be ruled out beyond reasonable scientific doubt for kittiwake. These are identified in **Table 6-1**.
- 6.2.1.5 An AEIOI in-combination could not be ruled out for a further two sites when considering specific assessment parameters and scenarios (**Table 6-1**). Firstly, at East Caithness Cliffs SPA an AEIOI in-combination could not be ruled out for kittiwake when applying the SNCB ‘High’ assessment parameters with Berwick Bank. Conversely, where Berwick Bank’s impacts are excluded AEIOI can be ruled out. The second instance in which an AEIOI in-combination could not be ruled out was for razorbill at Fowlsheugh SPA when considering the SNCB ‘High’ assessment parameters, both with and without Berwick Bank. The impact on these species at these sites are included here on a precautionary basis, to support Scottish Minister’s HRA if it is determined derogation is required.
- 6.2.1.6 The Applicant has had regard to advice provided by MD-LOT to other offshore windfarm proposals currently awaiting consent determinations and subject to derogation. In several instances these other projects share connectivity to European sites with the Salamander Project. Sites and species that are featured within other offshore wind project’s derogation cases that are also subject to assessment within the in-combination assessment of the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**) have been included within this without prejudice derogation case also. These sites and species have been included solely on a precautionary basis to support the Scottish Minister’s HRA if it is determined derogation

⁵Advice on marine renewables development, Guidance note 7 and 8, (NatureScot, 2024)

⁶ Van Kooten *et al.* (2019)

⁷ JNCC *et al.* (2022)

⁸ Macarthur Green (2023)

⁹ APEM (2022)

is required and despite Offshore RIAA conclusions ruling out AEIOI. These sites and species are identified in **Table 6-1**.

- 6.2.1.7 It is of note that just prior to application (4th April 2024) the decision on the Pentland Floating Offshore Wind Farm marine licence variation application was published. That consented the project with a conclusion of no AEIOI for all sites and species, but without information that could update how Pentland is included within the the Salamander Project's Offshore RIAA in-combination. Of direct relevance to the Salamander Project is the Appropriate Assessment prepared by the Competent Authority (Marine Directorate and Scottish Government, 2024) which noted the following as part of the consideration of kittiwake of the North Caithness Cliffs SPA with respect to Berwick Bank "A determination has not yet been made on the applications for this project [Berwick Bank] however, the AA has concluded that it will have an adverse effect on the site integrity of a number of qualifying interests of SPAs including kittiwake of the North Caithness Cliffs SPA. Berwick Bank can therefore only be consented if a derogation case is agreed, including compensatory measures to offset its impacts on those species/sites where the AA cannot conclude that there will be no adverse effect on site integrity. This means that if Berwick Bank is consented, the effects from Berwick Bank on these species/sites will be compensated for and on this basis will not be considered in the in-combination assessment. Berwick Bank will be considered in the in-combination assessment for those species/sites where it has a likely significant effect but no adverse effect on site integrity".
- 6.2.1.8 This is of most relevance to East Caithness Cliffs SPA and Farne Islands SPA, two SPAs where the potential for an AEIOI for kittiwake would only result under the high SNCB scenario with Berwick Bank. SSE Renewables (2022b) identifies that based on its developer approach to assessment, an AEIOI was concluded for East Caithness Cliffs SPA kittiwake and under its Scoping approach an AEIOI would be concluded for kittiwake at Farne Islands SPA and the East Caithness Cliffs SPA. Given the conclusion noted above in the AA for Pentland, there is likely precedent that AEIOI conclusions based on 'with Berwick Bank' scenarios can and will be disregarded, however for completeness they have been left incorporated within the Salamander Project's HRA derogation case documents.

Table 6-1: Summary of Conclusions for Ornithology In-combination and associated risk of an AEOI (cells highlighted purple identify where the Applicant’s RIAA indicates that a full derogation is required, cells highlighted green indicate where a species is included on a without prejudice, grey cells highlight where the offshore RIAA could not rule out an AEOI.

Site	Species	Current population (individuals)	Annual Adult Mortality from the Salamander Project		Conclusions of the Potential for an AEOI In-combination (in-combination annual mortality)			
			Applicant’s Approach	SNCB Approach	Applicant (Low) Scenario		SNCB (High) Scenario	
					Without Berwick Bank	With Berwick Bank	Without Berwick Bank	With Berwick Bank
Buchan Ness to Collieston Coast SPA	Kittiwake	22,590	9.0	11.9-19.7	AEOI	AEOI	AEOI	AEOI
East Caithness Cliffs SPA	Kittiwake	48,958	1.4	1.9-3.1	No AEOI	No AEOI	No AEOI	AEOI
	Razorbill	40,373	0.083	0.1-.299	No AEOI	No AEOI	No AEOI	No AEOI
Farne Islands SPA	Kittiwake (assemblage qualification)	8,804	0.1	0.2-0.3	No AEOI	No AEOI	No AEOI	No AEOI
Forth Islands SPA	Kittiwake	9,084	0.20	0.3-0.4	No AEOI	No AEOI	No AEOI	No AEOI
	Puffin	85,846	0.6	3.8	No AEOI	No AEOI	No AEOI	No AEOI
	Gannet	150,518	1.6	2.0-3.8	No AEOI	No AEOI	No AEOI	No AEOI

Site	Species	Current population (individuals)	Annual Adult Mortality from the Salamander Project		Conclusions of the Potential for an AEOI In-combination (in-combination annual mortality)			
			Applicant's Approach	SNCB Approach	Applicant (Low) Scenario		SNCB (High) Scenario	
					Without Berwick Bank	With Berwick Bank	Without Berwick Bank	With Berwick Bank
Fowlsheugh SPA	Kittiwake	28,078	1.9	2.5-4.1	AEOI	AEOI	AEOI	AEOI
	Razorbill	18,844	0.4	1.5-2.5	No AEOI	No AEOI	AEOI	AEOI
Hermaness, Saxa Vord and Valla Field SPA	Gannet	59,124	0.6-1.3	0.7-1.4	No AEOI	No AEOI	No AEOI	No AEOI
North Caithness Cliffs SPA	Kittiwake	11,142	0.2	0.3-0.5	No AEOI	No AEOI	No AEOI	No AEOI
St Abb's Head to Fast Castle SPA	Kittiwake	10,300	0.2	0.3-0.4	No AEOI	No AEOI	No AEOI	No AEOI
Troup Pennan and Lion's Head SPA	Kittiwake	21,232	3.0	3.9-6.5	AEOI	AEOI	AEOI	AEOI
	Razorbill	6,054	0.3	0.948-1.598	No AEOI	No AEOI	No AEOI	No AEOI
Outer Firth of Forth & St Andrews Bay Complex SPA	Kittiwake	n/a	The Conservation and Management Advice (NatureScot and JNCC, 2022) states that 'No site-reference population is set for kittiwake at the Outer Firth of Forth and St Andrews Bay Complex SPA due to the turnover of kittiwakes within the foraging area. For breeding kittiwake, when assessing plans or projects, the population impact should be considered in relation to the site reference populations for the above SPAs' (the named SPAs being Buchan Ness to Collieston Coast SPA, Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle					

Site	Species	Current population (individuals)	Annual Adult Mortality from the Salamander Project		Conclusions of the Potential for an AEOI In-combination (in-combination annual mortality)			
			Applicant's Approach	SNCB Approach	Applicant (Low) Scenario		SNCB (High) Scenario	
					Without Berwick Bank	With Berwick Bank	Without Berwick Bank	With Berwick Bank
			SPA and Troup Pennan and Lion's Head SPA). Therefore the conclusion of AEOI at the Outer Firth of Forth and St Andrews Bay Complex SPA for kittiwake is driven by the conclusions with respect to these breeding SPAs.					
	Gannet	n/a	The Conservation and Management Advice (NatureScot and JNCC, 2022) states that 'No site-reference population is set for gannet at the Outer Firth of Forth and St Andrews Bay Complex SPA due to the turnover of gannets within the foraging area. For breeding gannet, when assessing plans or projects, the population impact should be considered in relation to the site reference populations for the Forth Islands SPA'. Therefore the potential for AEOI at the Outer Firth of Forth and St Andrews Bay Complex SPA for gannet is driven by the conclusions with respect to these breeding SPAs					

7 Summary of Part 1 Background Information

- 7.1.1.1 **Part 1** of the Salamander Project's HRA derogation case has set out the legal and regulatory matrix required to apply the HRA derogation provisions should that be considered necessary by Scottish Ministers and MD-LOT.
- 7.1.1.2 Evidence is presented within the Application documents, notably the Offshore RIAA (**Volume RP.A.1, Report 1: Report to Inform Appropriate Assessment**), regarding the Salamander Project's impact on European sites. At the direction of MD-LOT and NatureScot, this assessment incorporates a range of assessment parameters in accordance with SNCB guidance¹⁰ along with the addition of the Applicant's assessment parameters. Assessment scenarios with and without Berwick Bank Offshore Wind Farm have also been presented. Thus, using this range of parameters and scenarios a worst-case potential impact for the relevant qualifying species can be determined. The Applicant considers that this worst-case assessment scenario is not representative of the likely impacts associated with a project of Salamander Project's scale. Notwithstanding this, the worst-case assessment impacts are insufficient magnitude to result in AEOI alone and in most cases in-combination also.
- 7.1.1.3 Noted exceptions are for kittiwake at Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA and Troup, Pennan and Lion's Head SPA where AEOI cannot be ruled out beyond reasonable scientific doubt under all assessment scenarios. Outer Firth of Forth and St Andrews Complex SPA is also included on basis of the impacts to these functionally linked SPA populations. These four sites, for kittiwake, represent the primary basis for the requirement for the HRA derogation case.
- 7.1.1.4 More marginal exceptions exist for kittiwake at East Caithness Cliffs SPA and razorbill at Fowlsheugh SPA under certain assessment scenarios and pending the competent authorities HRA for Berwick Bank. Several other additional sites have been identified for inclusion within the derogation case for impacts upon kittiwake, razorbill, puffin and gannet, this is done despite conclusions of No AEOI under all assessment scenarios. These are included in consideration of other derogation cases associated with yet to be determined offshore wind development applications. Information for these sites is provided on a without prejudice basis so as to ensure Scottish Ministers have the necessary level of information presented at an early stage in case it is deemed necessary.
- 7.1.1.5 Should the Scottish Ministers and MD-LOT conclude otherwise in respect of the above features, it is considered that any AEOI finding in respect of any of the relevant European sites would be marginal, based upon highly precautionary assumptions. This is relevant to **Parts 2 and 3** below which demonstrate in detail how the requirements of the HRA derogation provisions can readily and clearly be met for kittiwake at Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA, Outer Firth of Forth and St Andrews Complex SPA and Troup, Pennan and Lion's Head SPA or as required for the additional sites noted.

¹⁰ [Guidance Note 1: Guidance to support Offshore Wind Applications: Marine Ornithology - Overview | NatureScot](#)

Part 2: No Alternative Solutions

Report to Demonstrate No Alternatives Solutions

8 Introduction to the Assessment of Alternatives

- 8.1.1.1 **Part 2** (this part) of the without prejudice derogation case examines whether there are any feasible alternative solutions to the Salamander Project. It is demonstrated with evidence to the Scottish Ministers and MD-LOT that there are no alternative solutions which meet the Salamander Project's objectives.
- 8.1.1.2 A large range of potential alternatives have been identified, considered, and discounted. These range from 'doing nothing', to alternative sites, routes, designs, scales and working methods.
- 8.1.1.3 The Applicant has adopted the four principal steps set out in **Table 8-1** which consider the potential alternative solutions in a structured and sequential process:

Table 8-1 Sequential Approach to Consideration of Alternatives.

Step	Detail	Report Section
Step 1	Identify the need and core project objectives for the Salamander Project	Section 10
Step 2	Identify relevant works & potential residual harm to European sites	Section 11
Step 3	Consideration of alternatives	Section 12
Step 4	Assess and compare impact of any feasible alternative solutions on the UK site network ¹¹	Section 13

9 Approach to Alternative Solutions

- 9.1.1.1 The legal context and Habitats Regulations Appraisal (HRA) process surrounding the application of Article 6 (4) is set out in **Part 1** of the derogation information (see **Section 3**). The Habitats Regulations do not define "alternative solutions" and there is limited case law at the Scottish, United Kingdom (UK) or European Union (EU) level.
- 9.1.1.2 In the absence of a prescriptive statutory framework or case law, the approach adopted by the Applicant has been developed drawing upon relevant European Commission (EC) opinions¹², UK and EC guidance (principally European Commission, 2018¹³ and DEFRA 2012^{14,15}) and UK planning decisions (see **section 16.6**). However, it is acknowledged that such opinions, guidance, and planning decisions whilst not binding, do provide useful precedents for Scottish Ministers or MD-LOT.
- 9.1.1.3 On this basis the following key principles have been applied to the four steps detailed above in **Table 8-1**:
- The first step in considering alternatives must be to establish the key project objectives given that feasible solutions must be those that meet the project aims.
 - The project objective(s) that frame the search for alternatives can legitimately be narrow in scope, provided they are genuine and important.

¹¹ Regulations 4 and 33, EU Exit Regulations stipulate that the "Natura 2000" must now be read and construed as references to the coherence of the "National Site Network" i.e UK Site Network.

¹² EC opinions may be persuasive but do not constitute binding EU judgements.

¹³ Managing Natura 2000 Sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000), published by the EC in 2000, as updated in November 2018

¹⁴ Habitats Directive: guidance on the application of article 6(4), published by DEFRA in December 2012

¹⁵ Where relevant the Applicant has also had regard to the unpublished draft guidance from DTA to Scottish Government (DTAa, 2021)

- The notion of alternatives should not consider every theoretically imaginable alternative. The detailed consideration of alternatives should be limited to options which legitimately have financial, legal, and technical¹⁶ potential.
- Options which do not address the need and/or fail to meet the objective(s) are not an "alternative solution".
- The "do nothing" option should be considered but will not be an alternative solution (unless the need and project objectives can be delivered by doing nothing).¹⁷
- The development of alternative forms of energy generation are not taken to represent a legitimate alternative – this has been confined to other offshore wind farm developments.^{14, 18}
- Consideration of cost and viability is a relevant and legitimate consideration in determining feasibility. Alternative solutions need not be equivalent in cost, but additional costs should not be such that the alternative becomes undeliverable or unviable.
- If after applying the steps above a number of feasible alternatives have been identified, those should be subject to further consideration in terms of their relative effects on the integrity of the UK site network, as compared to the project in question.
- At this final step (comparison of feasible alternatives), feasible alternative solutions which are likely to give rise to similar adverse effects on the European site concerned, or the UK site network, can be discounted.
- Finally, the availability of a feasible alternative solution with a lesser effect on integrity is not necessarily decisive. The principle of proportionality applies. An alternative providing marginal reduction in harm for corresponding material loss of public benefit may not be a proper alternative.

10 Step 1 – The Need

10.1 The Clear and Urgent Need for Salamander Offshore Wind Farm

- 10.1.1.1 Climate change is the defining challenge of our time. Scotland and the UK are clear that decarbonisation through electrification is fundamental to addressing climate change, and that offshore wind must make a central contribution to the energy mix. The Climate Change Committee has stated that meeting the UK's legally binding target of net zero by 2050 will require around 95GW of offshore wind deployment by 2050 (CCC, 2020). Constructing capacity at this level will require a geographical spread of projects to take account of different constraints, including the needs of other maritime sectors, environmental considerations and the need to use deep water sites. Floating wind technology will be key to unlocking these potential deep water sites around the UK, as recognised by Crown Estate Scotland's ScotWind and INTOG leasing rounds which leased a total of 27 sites for floating wind. The Crown Estate's ongoing Leasing Round 5 in the Celtic Sea has identified a further three Project Development Areas specifically for floating offshore wind.
- 10.1.1.2 What is more, electricity supply from floating offshore wind must be affordable for consumers and secure. Much of the offshore wind capacity needed in Scotland will require new technologies that in turn require cost-reduction and de-risking at small scale before the larger projects can progress. In parallel to this, both

¹⁶ DEFRA 2012 discusses a tipping point "where an alternative is so very expensive or technically or legally difficult that it would be unreasonable to consider it a feasible alternative. The competent authority is responsible for making this judgement according to the details of each case."

¹⁷R (Plan B Earth) v Secretary of State for Transport [2020] EWCA Civ 214 at para 116

¹⁸ The SoS HRA for Hornsea 3 also provides a relevant example (Section 11.2 of the HRA), (BEIS, 2020).

Scottish and UK policy set out the importance of realising the economic opportunity of the transition to renewable energy and net zero, particularly for the Scottish supply chain.

10.1.1.3 The Salamander Offshore Wind Farm is an infrastructure project specifically designed to meet these needs. It aims to facilitate the future build out of offshore wind by de-risking technologies and stimulating the Scottish supply chain, helping to ensure the maximum benefit to Scotland's society, environment and economy.

10.1.1.4 The key summary points of the need case and how the Salamander Project addresses them are set out in **Table 10-1**.

Table 10-1: Key components of the need case and how Salamander addresses these needs

No.	Need case component	How Salamander addresses the need
1	<p><i>The need to address climate change and the legal requirement to do so through decarbonisation.</i></p> <p>Decarbonisation is a legal requirement in both Scotland and the UK as a whole and is of global significance. It cannot be allowed to fail, and urgent actions are required in the UK and abroad, to keep decarbonisation on track to limit global warming.</p>	<p>The Salamander Project will make a significant contribution to Scotland and the UK’s energy security and decarbonisation needs – not only through its own generation of 100 MW of renewable energy to the grid (enough to power 100,000 homes and displace around 96,000 tonnes of CO2 per annum) but crucially, through its role in enabling and de-risking the future pipeline of around 23 GW of large scale floating offshore wind in Scotland.¹⁹ As detailed in 10.1.1.1, floating offshore wind will make up a significant proportion of the 95 GW of offshore wind the Climate Change Committee deems necessary by 2050 to meet net zero.</p>
2	<p><i>The need for offshore wind as part of a secure supply of indigenous energy</i></p> <p>Wind generation is an essential element of the delivery plan for the urgent decarbonisation of the GB power sector and for future decarbonisation of industrial, transport and heat sectors, through electrification. Offshore wind contributes to a secure generation mix, and Scotland’s offshore wind pipeline is particularly exposed to new floating technologies which must be de-risked.</p>	<p>The Salamander Project will break down barriers to deployment including supply chain capacity and capability; coexistence with other marine users; and demonstrating at commercial scale new technologies that will further increase energy security within the GB system. The Salamander Project’s grid connection means that it will be required to play its part in helping National Grid manage the electricity system. This includes participating in the wholesale balancing markets including but is not limited to; helping balance supply and demand on a minute-by-minute basis; providing essential ancillary services; and providing visibility of its forecast generation at all times.</p>
3	<p><i>The need to stimulate the local supply chain to help support future commercial scale projects in Scotland and overseas, while ensuring a just transition</i></p> <p>The economic opportunity of large-scale offshore wind build out in Scotland is well documented. Innovation projects are needed to provide the local supply chain, particularly ports and local fabrication facilities which are in significant need of investment for expansion, with opportunities to deliver the new technologies that will be used in the</p>	<p>The Salamander Project will provide an early opportunity for the local supply chain to deliver the technologies that will be needed in the large-scale ScotWind build out, as well as future overseas projects. In doing so it will strengthen the case for anticipatory investment in the supply chain, particularly vital port infrastructure and manufacturing capabilities, de-risk the future pipeline and help the local supply chain increase its international competitiveness.</p>

¹⁹ The Salamander Project has the potential to enable future large scale floating offshore wind projects. In Scotland this comprises 19 GW of floating capacity leased through Crown Estate Scotland’s ScotWind leasing round, and a further 4GW of large-scale floating projects leased as part of the TOG stream of the INTOG leasing round.

	<p>large-scale projects later in the 2020s and into the 2030s, thus improving their competitiveness in an international market. These opportunities also support the diversification of the existing supply chain that has served Scotland’s oil and gas industry for many decades, helping to retain skills and jobs and support a just transition. Increased local supply chain capacity is needed to help to de-risk the future pipeline, as well as generate potential for economic growth through long term exports of low carbon energy goods and services.</p>	
4	<p><i>The need for cost reduction and affordability of energy for consumers</i></p> <p>While newer technologies (e.g. floating wind) are nearer the beginning of their cost reduction journey than more established technologies (e.g. fixed bottom offshore wind), they are capable of delivering electricity at competitive prices. The Contracts for Difference mechanism will ensure electricity produced by floating offshore wind is affordable for consumers and will drive further cost reductions over time, as it has for fixed-bottom.²⁰ Early deployment of multiple solutions and scaling up over time was crucial to this journey for fixed bottom and will be crucial again to achieving this for floating offshore wind.</p>	<p>The Salamander Project supports floating offshore wind and other new technologies on their cost-reduction journey by giving the supply chain an opportunity to deliver at smaller scale and identify efficiencies that can be learned from and taken forward to larger scale deployment.</p>

²⁰ Administrative Strike Price for fixed offshore wind is 48% lower in AR6 (£73€/MWh) than it was in AR1 (£140€/MWh).

10.1.2 The Need to Address Climate Change and the Legal Requirement to do so Through Decarbonisation

- 10.1.2.1 Climate change is the defining challenge of our time. The impacts of climate change are global in scope and unprecedented in human existence. The UK and Scotland, in common with many other countries, have declared that we face a global 'climate change emergency'. By definition, an emergency is a grave situation that demands an urgent response.
- 10.1.2.2 Under the 2015 Paris Agreement²¹, the UK has committed to limit the average global temperature increase to 1.5 °C or less. This limit was set by the United Nations Intergovernmental Panel on Climate Change which indicated that exceeding this threshold could lead to more severe climate change impacts.
- 10.1.2.3 In direct response to the Paris Agreement, legally binding emissions reduction targets for Scotland set out in the Climate Change (Scotland) Act 2009 were amended by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. These updated targets include a net-zero emissions target for 2045, alongside interim targets of a 75% reduction by 2030 and a 90% reduction by 2040. There are statutory annual targets for every year leading up to 2045 and a report on whether they have been met must be published each year.

10.1.3 The Need for Offshore Wind as Part of a Secure Supply of Indigenous Energy

- 10.1.3.1 It is widely recognised in UK and Scottish policy that the advancement of renewable energy developments in Scotland underpins these targets on limiting the increasing average global temperature and achieving net zero by decarbonising the energy sector. The Draft Energy Strategy and Just Transition Plan (Scottish government, 2023a), states the target that 50% of the energy used for Scotland's heat, electricity, and transport, is to be supplied by renewable energy sources by 2030. The Scottish Government's Offshore Wind Policy Statement (2020a) set out an ambition to achieve 8-11GW of offshore wind in Scottish waters by 2030, and its Draft Energy Strategy and Just Transition Plan (2023a) consulted on increasing that target. The British Energy Security Strategy (HM Government, 2022) sets out the UK Government target of up to 50 GW of offshore wind by 2030, including 5GW of floating wind. The UK Government's 'Powering up Britain' plans²² set out how the UK will provide energy security, seize the economic opportunities of the transition to net zero, and deliver on net zero commitments.
- 10.1.3.2 Both Scottish and UK policy emphasise the importance of energy security through the development of domestic resources and additional energy storage.
- 10.1.3.3 Scotland has the world's largest pipeline of floating offshore wind projects. Between the ScotWind and INTOG leasing rounds, CES awarded seabed exclusivity to over 23GW of floating wind developments (excluding the five innovation projects of which the Salamander Project is one) largely due to the abundance of Scotland's deep water (CES, 2023). Floating offshore wind is also integral to delivering the targets for decarbonisation of oil and gas assets set out in the North Sea Transition Deal: all seven of the projects award exclusivity agreements under the 'TOG' stream of CES's INTOG leasing round intend to use floating foundations. As set out in the INTOG leasing round under which the Salamander Project was awarded an exclusivity agreement, 'in order to reach net zero emissions by 2045, Scotland will need innovations in offshore wind which go beyond current technologies – so creating opportunities for developers to test new

²¹ <https://unfccc.int/process-and-meetings/the-paris-agreement>

²² HM Government's 'Powering Up Britain' plans by include the Energy Security Plan (2023a) and the Net Zero Growth Plan (2023b)

ideas is crucial.’ Risk-reduction of new technologies was one of the stated objectives of the INTOG leasing round.

10.1.4 The Need to Stimulate the Local Supply Chain to Help Support Future Commercial Scale Projects in Scotland and Overseas, While Ensuring a Just Transition

- 10.1.4.1 The Scottish Government has set out clear policy objectives on how decarbonisation should be achieved by maximising economic opportunities for Scotland and delivering a just transition. The Scottish Energy Strategy (2017) details the Scottish Government’s ambition to support the offshore wind industry in boosting the Scottish supply chain and reaching the scale required to support Scotland’s energy needs as well as generate exports. The Scottish Government Draft Energy Strategy and Just Transition Plan presents a vision where Scotland’s future energy system *‘will deliver maximum benefits for Scotland, enabling us to...deliver a just transition for our workers, businesses, communities and regions.’* The Just Transition Plan has a clear objective of *‘boosting jobs, our domestic supply chain and manufacturing capabilities.’* The draft strategy specifically mentions INTOG as key to supporting the scale up of offshore renewable energy in Scotland. The Scottish Government’s National Strategy for Economic Transformation (2022b) also includes supporting Scotland’s net zero supply chains as a priority.
- 10.1.4.2 As part of their Supply Chain Development Statements, the 20 ScotWind projects committed to investing £28 billion in potential Scottish economic activity – an average of £1.4 billion per project²³. That investment is, however, contingent on the supply chain capability and capacity existing in Scotland, which in turn depends on anticipatory investment being secured and the local supply chain being internationally competitive, supported in part by its experience in delivering these technologies.
- 10.1.4.3 At the very heart of the local supply chain requirement for floating offshore wind build out are port facilities. Scotland and the UK currently do not possess the port facilities required to deliver the GW-scale floating offshore wind farms (ten times greater than Salamander) being developed under ScotWind. Based on the most recent guidance from the Climate Change Committee’s (CCC) Sixth Carbon Budget, Royal Haskoning DHV calculated the scale of offshore wind the UK might seek to deploy by 2050 to meet net zero, and credible scenarios for a so-called *‘aspired high case’* of 5GW of floating offshore wind in 2030 accelerating deployment to an industrial scale at 34GW in 2040 (Royal Haskoning DHV, 2023). This would require:
- £4bn of investment in integration and manufacturing/assembly ports
 - three to five integration ports in Scotland by 2030 and an additional four UK ports to service steel assembly and/or concrete manufacturing
 - timely investment in port infrastructure development to ensure ports are fully prepared by 2028-29 to support industrialised scale deployment of floating offshore wind in the 2030s.
- 10.1.4.4 Understanding how smaller scale *‘stepping stone’* projects can help support this, one of the INTOG leasing round’s central objectives for its innovation stream was *‘to further develop Scotland as a destination for innovation and technical development which will lead to risk reductions and supply chain opportunity.’* The need for small scale floating innovation projects to support the scaling up of floating offshore wind has also been recognised in the recent Investor Panel Recommendations Scottish Government (2023b) to the Scottish Government which recommended *‘A plan needs to be developed for the scaling up of a floating offshore wind pilot scheme to assist in developing other sites at scale. This can leverage learning from the innovation projects emerging from the existing INTOG leasing round to start a practical conversation on the*

²³ www.crownstatescotland.com/scotlands-property/offshore-wind/scotwind-leasing-round

floating offshore wind supply chain opportunity for Scotland. The Scottish Government’s response included a commitment to working through the Scottish Wind Energy Council to *‘leverage innovation opportunity from the INTOG leasing round to ensure maximum benefit to the Scottish supply chain and the pipeline of projects which will rely on it.’*

10.1.5 The Need for Cost Reduction and Affordability of Energy for Consumers

10.1.5.1 Both UK and Scottish policy objectives include cost reduction and affordability of energy for consumers. The ScotWind leasing round alone attracted a pipeline of over 30GW of offshore wind, more than half of which is floating (due to the limitations of water depth and other constraints such as environmental factors and other marine users) and much of which will likely include other new technologies such as energy balancing infrastructure to meet the needs of UK consumers. While fixed-bottom offshore wind has demonstrated its ability to deliver low-cost renewable energy, many of the new technologies that will be involved in these future projects, including floating-specific technologies, are earlier in their cost-reduction journey and require smaller scale ‘stepping stone’ projects to help drive down cost.

10.1.5.2 Floating offshore wind, like fixed before it, needs to build scale over a period of time and to test alternative and innovative solutions including different substructure concepts with ports to prepare for industrial scale deployment.

10.1.5.3 A key objective of the INTOG leasing round’s innovation stream was ‘to enable projects which support cost reduction in support of commercial deployment of offshore wind’. It is noteworthy that CES identified a need for five innovation projects through INTOG, underlining the need for multiple concepts to be delivered through multiple supply chain facilities including ports.

10.2 The Core Objectives of Salamander Offshore Wind Farm

10.2.1.1 It is clear from the need described above that innovation projects of the Salamander Project’s scale must be deployed urgently.

10.2.1.2 The environmental, regulatory, market and economic factors summarised above, drive and are fundamental to the core project objectives for the Salamander Project, set out in **Table 10-2** below.

Table 10-2: Core Project Objectives for Salamander Offshore Wind Farm

No.	Salamander Offshore Wind Farm Objective
1	<p><i>Develop the future local supply chain to maximise the economic benefits of offshore wind build out to Scotland and the UK</i></p> <ul style="list-style-type: none"> • The Salamander Project aims to create a ScotWind legacy by: <ul style="list-style-type: none"> ○ stimulating local content in offshore wind by working with local innovation providers and ○ ensuring long-term economic value by partnering with innovation organisations to create a pathway for the supply chain to develop and commercialise new products for the global market • Based on selecting a floating foundation that could be manufactured and assembled at a Scottish port, the Salamander Project’s innovation package could result in an over 60% increase in high-value local manufacturing content in large-scale projects. This, in turn, would bring an additional £1 billion in direct, indirect and induced economic value to Scotland per gigawatt and 20,000 additional direct, indirect and induced full-time equivalent (FTE) job-years. • The Salamander Project’s innovation package has been designed to open up multiple new market opportunities for local supply chain companies in Scotland and the UK. The project won its Exclusivity Agreement from Crown Estate Scotland based on the strength of these plans.

No.	Salamander Offshore Wind Farm Objective
2	<p data-bbox="296 367 817 394"><i>Facilitate local content and fabrication within Scottish ports</i></p> <p data-bbox="296 430 1034 456">By anchoring the foundation assembly at a Scottish port the Salamander Project will:</p> <ul data-bbox="344 465 1394 636" style="list-style-type: none"> <li data-bbox="344 465 1394 528">• Demonstrate local ports are capable of delivering floating offshore wind, helping to increase investor confidence in port expansion plans necessary to realise local content ambitions of the ScotWind portfolio. <li data-bbox="344 533 1394 595">• Ensure Scottish ports benefit from early learnings in delivering floating offshore wind thereby increasing their competitiveness. <li data-bbox="344 600 1394 636">• Incentivise other manufacturing facilities to establish themselves at Scottish port sites.
3	<p data-bbox="296 658 1331 721"><i>Support the development of technologies that are vital to the future, secure GB energy mix to ensure they are ready for commercialisation ahead of large-scale build out in Scotland</i></p> <ul data-bbox="344 743 1394 981" style="list-style-type: none"> <li data-bbox="344 743 1394 806">• Enable a suite of high-potential innovations to reach full commercialisation and uptake by demonstrating them at pre-commercial scale in an operational environment. <li data-bbox="344 810 1394 873">• Set HSE standards that will be crucial for new technologies at commercial scale including in design development, equipment selection, installation procedures and ongoing operation and maintenance activities. <li data-bbox="344 878 1394 981">• Enable the supply chain to access intellectual property resulting from the project, to support the rapid up-scaling and roll-out of innovations beyond the Salamander Project and the consequent positive impacts for Scottish businesses and society.
4	<p data-bbox="296 1008 932 1034"><i>Expedite the delivery of floating wind, particularly the ScotWind portfolio</i></p> <p data-bbox="296 1070 1260 1097">The Salamander Project has a strong opportunity to deliver ahead of the ScotWind floating portfolio thanks to:</p> <ul data-bbox="344 1106 1394 1330" style="list-style-type: none"> <li data-bbox="344 1106 1394 1142">• its confirmed grid connection for 2029 <li data-bbox="344 1146 1394 1209">• its proximity to shore which means it does not require an offshore substation or alternative route to market, reducing risk to the business case and potential for delay <li data-bbox="344 1214 1394 1330">• its partners' track record in delivering offshore wind projects: Ørsted A/S has around 30 years' experience and globally has installed 8.9 GW of offshore wind capacity, while Subsea7 has been instrumental in delivering over 11GW of offshore wind projects in the UK alone.
5	<p data-bbox="296 1352 973 1379"><i>De-risk new technologies that will be vital to the future, secure GB energy mix</i></p> <ul data-bbox="344 1393 1394 1464" style="list-style-type: none"> <li data-bbox="344 1393 1394 1464">• Deliver significant risk mitigation impacts for offshore wind in general and Scottish floating offshore wind ambitions in particular. These include supply chain risks, execution and operations risk and commercial risks.
6	<p data-bbox="296 1505 673 1532"><i>Support cost reduction in new technologies</i></p> <ul data-bbox="344 1545 1394 1635" style="list-style-type: none"> <li data-bbox="344 1545 1394 1635">• Delivery of technologies through the Salamander Project will drive efficiencies in all phases of the asset's life cycle including construction, operations, maintenance and decommissioning.
7	<p data-bbox="296 1675 865 1702"><i>Support decarbonisation and security of the UK's energy supply</i></p> <ul data-bbox="344 1738 1394 1886" style="list-style-type: none"> <li data-bbox="344 1738 1394 1800">• Deliver capacity itself but more importantly help enable the large floating offshore wind pipeline that is essential to the UK and Scotland meeting their legally binding net zero commitments and interim carbon budgets. <li data-bbox="344 1805 1394 1841">• Support diversity of generation profile and supply. <li data-bbox="344 1845 1394 1886">• Support de-risking of new technologies (see <i>Objective 6</i>)
8	<p data-bbox="296 1908 1372 1935"><i>Support the development of environmental standards and best practices in impact mitigation and biodiversity outcomes</i></p>

No.	Salamander Offshore Wind Farm Objective
	<ul style="list-style-type: none"> • Improve biodiversity outcomes and reduce wildlife disturbance • Reduce carbon emissions over life of the wind farm

11 Step 2 – Relevant Works and Residual Potential Harm

11.1.1.1 As detailed in **Section 6**, the relevant impacts associated with the species identified for inclusion within this derogation case (**Table 6-1**) are collision risk and distributional responses (i.e. displacement and barrier effects).

11.1.1.2 Collision risk as a pressure can impact both kittiwake and gannet, with the impact arising from the operation of the wind turbines during the operational period interacting with bird species when in flight. The primary aspects of the maximum design scenario (MDS) relevant to or which may influence collision risk during operation are:

- i. array location
- ii. number of turbines;
- iii. Minimum lower tip height (height of turbine blades above sea surface) and rotor diameter. (bird densities are lower at higher altitudes due to the skewed nature of bird flight height distribution (Johnston et al., 2014).
- iv. Operational adjustments (i.e. shutdown periods)

11.1.1.3 NatureScot guidance²⁴ indicates that impacts from distributional responses should be assessed for all species identified: Kittiwake, gannet, puffin and razorbill. Distributional response impacts are influenced by the area and location within which turbines are sited.

11.1.1.4 Changes (i.e., alternatives) to any other elements of the MDS, outside of those specified above, would have no bearing on collision risk for kittiwake and gannet, or the distributional responses of all species considered and cannot be alternative solutions.

12 Step 3: Consideration of Alternatives

12.1 Do Nothing

12.1.1.1 The ‘do nothing’ option means not proceeding with the project at all. This would remove any possibility of harm to all qualifying features in **Table 6-1** in relation to the project but the need for the project and its core objectives would not be met. The ‘do nothing’ scenario can therefore be immediately discounted.

12.1.1.2 ‘Do nothing’ would not only mean the loss of 100 MW of renewable generation capacity, but would also equate to the loss of one of a number of ‘stepping-stone’ projects which are essential to realising the potential of floating offshore wind in Scotland. At worst, it would decrease confidence in the anticipatory investment needed by the Scottish supply chain ahead of the large-scale floating offshore wind projects and fail to respond to the need to ready the local supply chain to take advantage of future commercial scale projects. Furthermore, the ‘do nothing’ option would add delivery risk to the large-scale floating projects in

²⁴ [Guidance Note 8: Guidance to support Offshore Wind Applications: Marine Ornithology Advice for assessing the distributional responses, displacement and barrier effects of Marine birds | NatureScot](#)

Scotland's pipeline through: a less mature supply chain; lower supply chain capacity to deliver the pipeline of projects necessary to meet climate and renewable generation targets; and greater technology risk. These factors in turn would likely add further delay to future projects. Even if those future projects were delivered, they would be done so with a lower share of local supply chain content thus delivering a far lower benefit to Scotland's economy and society. Failure to deliver INTOG's portfolio of small innovation projects would make it unlikely that the UK and Scottish Governments' policy ambitions for offshore wind capacity as well as maximising economic benefit would be realised.

- 12.1.1.3 It is also noteworthy that the Secretary of State commented in the Hornsea Four HRA determination that "other wind farm proposals do not present an alternative solution as all available projects are required in order to meet UK 2030 targets for renewable energy".
- 12.1.1.4 Other projects could not make up for the loss of the Salamander Project given the urgency of floating offshore wind development and the imperative for multiple innovation projects that de-risk delivery of the future floating offshore wind pipeline in time for learnings to be realised and investments to be incentivised ahead of those future projects being built. This means multiple technologies being delivered through multiple supply chain facilities, crucially ports. Based on development timeframes from previous offshore wind farms in Scotland, it is also unrealistic to assume a project not yet with an exclusivity agreement can deliver these benefits in a meaningful way.
- 12.1.1.5 Alongside the Salamander Project, four other innovation projects were awarded exclusivity agreements by CES as part of the INTOG leasing round. Importantly, CES chose to lease to a cohort of innovation projects, understanding that the future technologies which will support GB energy security and decarbonisation are many, and that trialing alternative solutions is a crucial part of the development of the floating sector, and so it is important to have multiple 'stepping stone' projects. It is also well understood that Scotland will need multiple installation ports in order to be able to deliver the ScotWind pipeline, and so multiple innovation projects are required to provide that learning opportunity to multiple ports. The INTOG leasing process set out six innovation categories against which projects could designate themselves: supply chain, commercial, new markets, cost reduction, health and safety, and environmental. Although the five innovation INTOG projects including the Salamander Project all intend to use floating foundations, their objectives and innovation packages will differ substantially and they will be delivered by different supply chain facilities. They therefore cannot be considered alternatives to one another, see **Table 12-1**.
- 12.1.1.6 The Salamander Project came through the INTOG leasing round as a 'supply chain' project, that plans to connect to the grid and bring a broad range of innovations to the commercial market that will be deliverable by the local Scottish supply chain. Flora Offshore Wind (50 MW) is a 'new markets' project which aims to provide power to an onshore hydrogen facility in Aberdeen and does not expect to connect to the grid. Malin Sea Wind (100 MW) is a 'cost reduction' project focused on carbon capture and hydrogen production. It is situated off Scotland's west coast and is likely to bring a different set of benefits to the supply chain than Salamander, including use of a west coast integration port. Sinclair (99.45MW) and Scaraben (99.45 MW) are commercial and supply chain focused projects respectively, likely to be developed alongside Broadshore which has a grid connection date of 2033 (subject to the ongoing Holistic Network Design) and so are unlikely to offer the local supply chain the same opportunity to learn and build capacity and capability ahead of the bulk of the ScotWind pipeline. These projects are also carrying out studies on alternative routes to market.

12.1.1.7 Crucially, the Salamander Project is significantly further developed than any of the other innovation INTOG projects, having submitted a scoping report over a year ahead of the next most developed projects. In order to meet its objectives, the Salamander Project must be operational ahead of the large-scale floating projects of ScotWind. This means that none of the other INTOG innovation projects which are further behind in development serve as a likely alternative.

Table 12-1: Small scale INTOG innovation projects in Scotland

Project	Capacity	INTOG Innovation Category	Focus / differentiators
<i>Flora Offshore Wind</i>	50MW	New markets	Connecting to onshore hydrogen hub
<i>Malin Sea Wind</i>	100MW	Cost reduction	Carbon capture and storage; west coast
<i>Salamander</i>	100MW	Supply chain	Floating foundation and other technologies deliverable in Scottish ports and manufacturing facilities
<i>Scaraben</i>	99.45MW	Supply chain	Floating foundation and other technologies deliverable in local facilities. ~12 months behind Salamander in development. 2033 grid connection date.
<i>Sinclair</i>	99.45MW	Commercial	Community ownership model

12.1.1.8 Outwith INTOG, CES has also leased seabed to Pentland Floating Offshore Wind Farm, a 100 MW project sited off the coast of Dounreay, Caithness. Again, Pentland’s technology package is different to the Salamander Project’s technology choices, and given the need for a multitude of new technologies to be demonstrated at commercial scale in Scottish waters ahead of large-scale deployment, Pentland does not serve as an alternative to the Salamander Project in meeting the project’s objectives. On the basis that the ideal integration port will be within 150 nautical miles of the project site²⁵, Pentland is likely to support

²⁵ An ideal integration port is deemed to be up to 150 nautical miles from the project site in order to be within technical and QHSE feasibility. This corresponds to a total of approximately 7-12 days for platform tow-to-site, hook-up and vessel return-to-port operations.

investment in and use of a different range of ports than Salamander. Importantly, CES identified the need for five innovation projects in the knowledge that Pentland was already underway.

12.1.1.9 ScotWind and INTOG leasing rounds saw over 23 GW of capacity awarded to large-scale floating offshore wind projects²⁶. The Salamander Project's core objectives are to benefit these later projects, and the local supply chain that will aim to serve these later projects, and so none of these projects themselves can serve as a reasonable alternative to the Salamander Project. These larger projects alone are unlikely to be enough to stimulate the necessary anticipatory investment in the supply chain and their delivery will be at higher risk in the absence of test case innovation projects coming first. According to BVG analysis (BVG, 2023), even a floating wind farm of 450 MW will require in the region of £3.3bn of capital expenditure, with a 1 GW floating wind farm stretching to in excess of £5bn. Securing this scale of finance is unlikely if technology is not proven in advance.

12.1.1.10 The 'do nothing' option can be immediately discounted as it would not meet any of the core project objectives.

12.2 Other Locations

12.2.1 Array Locations Not in UK EEZ

12.2.1.1 Alternative sites for offshore wind farms outside the UK would not meet the Salamander Project's core objectives, or the objective of the INTOG leasing round to 'further develop Scotland as a destination for innovation and technical development which will lead to risk reductions and supply chain opportunity.' In fact, such sites would be counterproductive to achieving these aims, being more likely to draw highly mobile investment away from UK facilities. While it is possible (although unlikely based on the experience of fixed bottom offshore wind) that UK and Scottish supply chain facilities might support projects out with UK territorial waters, those projects themselves are unlikely to stimulate the necessary investment in local supply chain capabilities that the Salamander Project aims to achieve. Much of the supply chain for floating offshore wind is geographically constrained, in particular, installation port facilities. These installation ports will handle, store, integrate, launch and wet-store floating offshore wind turbines before they are towed to their final locations.²⁷ It is likely that these installation ports will act as hubs, catalysing adjacent supply chain activity including some manufacturing. Offshore wind farms in other markets are unlikely to stimulate growth in this way.

12.2.1.2 Without supporting growth of the local Scottish supply chain, particularly ports, wind farms at location outside the UK EEZ would fail to help facilitate the Scottish (and UK) floating pipeline, and therefore not contribute to supporting UK obligations and targets related to climate change, decarbonization and renewable energy.

12.2.1.3 Wind farms outside the UK EEZ would also not de-risk the new technologies needed for the future GB energy mix as they would not necessarily demonstrate these technologies in the North Sea environment where

²⁶ The Salamander Project has the potential to enable future large scale floating offshore wind projects. In Scotland this comprises 19GW of floating capacity leased through Crown Estate Scotland's ScotWind leasing round, and a further 4GW of large-scale floating projects leased as part of the TOG stream of the INTOG leasing round.

²⁷ An ideal integration port is deemed to be up to 150 nautical miles from the project site in order to be within technical and QHSE feasibility. This corresponds to a total of approximately 7-12 days for platform tow-to-site, hook-up and vessel return-to-port operations.

Scotland's GW scale floating projects will be built. Many of the risks the Salamander Project aims to reduce e.g. supply chain, execution and operations risks, are location-specific to an extent.

12.2.1.4 It is therefore evident that locations outside the UK EEZ cannot be an alternative solution to the Salamander project.

12.2.2 Array Locations in UK EEZ But Out with Scotland

12.2.2.1 Projects being taken forward through Round 4 leasing by The Crown Estate are commercial scale, (over 100 MW) projects using fixed bottom foundations and therefore not genuine alternatives to the Salamander Project.

12.2.2.2 While the Celtic Sea is host to some 100 MW floating projects, similarly to array locations not in the UK EEZ, projects in the Celtic Sea are unlikely to stimulate the necessary investment in the Scottish supply chain that the Salamander Project aims to deliver. Again, this is because much of the supply chain for floating offshore wind is geographically constrained, in particular port facilities. While Scottish ports may serve projects elsewhere in the UK and ports elsewhere in the UK may serve projects in Scotland, it is likely that the majority of the large-scale floating offshore wind farms in Scotland's pipeline will require Scottish installation ports, and particularly ports on the east coast, given the majority of the projects are situated in waters to the east of Scotland.²⁸ Offshore wind farms in other parts of the UK are less likely to support investment in Scottish ports and other supply chain facilities, and therefore are unable to meet CES's INTOG objectives.

12.2.2.3 Offshore wind farms in other nations within the UK do not deliver on any of the Scotland-specific targets or policy related to climate, carbon emissions reductions, renewable energy generation or offshore wind generation.

12.2.2.4 It is also not evident that alternative locations elsewhere in the UK would be able to avoid similar impacts to European Sites and, in particular, some of the relevant species considered within **Section 6**, as shown by recent planning decisions by the Secretary of State in the English marine area.

12.2.2.5 It is therefore evident that locations outside of Scotland cannot be an alternative solution to the Salamander Project.

12.2.3 Array Locations Within Other Scottish Sites And Leasing Rounds But Outwith INTOG

12.2.3.1 CES holds the exclusive rights to manage the leasing of seabed for offshore wind development within Scottish waters, with seabed made available for offshore wind development selectively in successive offshore leasing rounds.

12.2.3.2 CES has not indicated its intention to hold any future leasing rounds in the short term. It can be argued that only sites that would form part of a CES leasing round are reasonable as alternatives to the Salamander Project²⁹. Any projects emerging from a future leasing round would not be deliverable ahead of the first large scale floating offshore wind farms coming through as part of the ScotWind and INTOG leasing rounds and therefore would not be able to meet any of the Salamander Project's objectives. Furthermore, any such projects would not necessarily represent alternatives with less damaging ecological impacts.

²⁸ An ideal integration port is deemed to be up to 150 nautical miles from the project site in order to be within technical and QHSE feasibility. This corresponds to a total of approximately 7-12 days for platform tow-to-site, hook-up and vessel return-to-port operations.

²⁹ HRA derogation from the Secretary of State for East Anglia ONE North, provides relevant precedent to support this: <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010077/documents?date-from-day=&date-from-month=&date-from-year=&date-to-day=&date-to-month=&date-to-year=&searchTerm=derogation&itemsPerPage=25>

12.2.3.3 Other Scottish based projects which already have seabed leases are predominantly over 100 MW in scale. ScotWind projects are all commercial scale, greater than 100 MW projects, not innovation projects as defined by the INTOG leasing process, and therefore are not alternatives to the Salamander Project. Since one of the objectives of the Salamander Project is to facilitate the delivery of ScotWind, these sites cannot fulfil this objective. Pentland is a 100 MW project but also does not serve as a reasonable alternative to the Salamander Project, as outlined in **12.1.1.8**.

12.2.4 Other Leasing Areas Permitted Within the INTOG Leasing Round

12.2.4.1 As outlined in **12.1** it is necessary to have multiple innovation projects to help realise different benefits and support the development of the floating sector. This was recognised by the CES INTOG leasing round which brought forward five projects in addition to those demonstration or innovation scale projects already developed or in planning and, as well those INTOG projects specifically responding to the targeted oil and gas decarbonisation category of the leasing round. These Other planned INTOG projects therefore do not represent a viable alternative.

12.2.4.2 The Salamander Project's site selection was informed by the Initial Plan Framework for the Sectoral Marine Plan for INTOG and the parameters set out by CES in the INTOG leasing round itself. These stated that innovation projects should not be located within the areas marked for exclusion, areas identified for Targeted Oil and Gas decarbonisation projects nor areas already leased as part of the ScotWind leasing round.

12.2.4.3 A comprehensive site selection process started from an initial selection of eight areas located within the permissible areas for INTOG projects, which avoided existing offshore infrastructure, environmentally sensitive areas and regions with high intensities of shipping traffic. These areas were narrowed down to a short-list of three which showed a combination of good technical characteristics (including seabed and metocean conditions) for safe offshore operations, proximity to key ports and supply chain facilities, and the right commercial qualities (including access to grid and high energy yield) needed for an economically competitive project. Discussions were then held with Marine Scotland, NatureScot, CES, the RSPB, the Scottish Fishermen's Federation and the Scottish White Fish Producers Association to refine the choice of the final area based on their feedback (**Table 5-2, Volume ER.A.2, Chapter 5: Stakeholder Consultation**).

12.2.4.4 Any alternative site not already identified in the leasing round would need to be subject to the same assessment process as is currently being undertaken on the awarded innovation sites, as well as survey requirements which have a minimum lead time of two years. In particular, alternatives would need to be assessed as part of (or in addition to) the INTOG-Sectoral Marine Plan (INTOG-SMP) process. The existing innovation sites were awarded by CES in March 2023 and the INTOG-SMP process is still ongoing at time of writing.³⁰ It is reasonable to assume the assessment of an alternative site would take a similar period to complete, if not longer. It would also require Marine Directorate to agree to assess alternative sites.

12.2.4.5 The Salamander Project has completed a significant amount of application preparatory work, including two years of bird surveys and analysis, submission of a scoping report and public consultation. Even if CES and Marine Directorate were able to accommodate a new site within the INTOG-SMP process it would not be feasible for an application to be submitted and consent secured within the timescales of the Salamander

³⁰ Marine Directorate issued a statement in March 2024 indicating it expects the SMP to be published for consultation in autumn 2024 and adopted in spring 2025.

Project. Sites permitted under the INTOG leasing round but not yet awarded exclusivity agreements are therefore unlikely to be capable of meeting the objectives of the project.

- 12.2.4.6 Furthermore, high levels of ornithological constraint are evident from derogation cases required in support of recent offshore wind farm marine licence applications as well as being noted within the Sectoral Marine Plan³¹. It is therefore not clear that alternative INTOG leasing round sites would be able to avoid similar impacts to European Sites. and, in particular, the relevant species considered within **Section 6**.

12.3 Consideration of Feasible Design Alternatives

- 12.3.1.1 Feasible design alternatives have been considered throughout the development process of the Salamander Project. This has formed a fundamental driver for decision making within the project, from the technical options within the engineering side to the macro-siting (avoidance of large-scale features and designated sites).

- 12.3.1.2 All elements of the Project Design Envelope for the Salamander Project have been continuously re-appraised, to ensure that feasible and practical mitigation has been deployed, where deemed appropriate to do so. The Salamander Project has adopted commitments (primary design principles inherent as part of the Project, installation techniques and engineering designs/modifications) when preparing the application, to eliminate and/or reduce the projects impacts across a range of receptors. These are outlined in full in **Volume A.4, Annex 6.1: Commitments and Mitigations Register**.

- 12.3.1.3 An important part of the development process for the Salamander Project has been the consideration of potential options, selection, and the subsequent refinement of project infrastructure. **Volume A.2, Chapter 3: Site Selection and Consideration of Alternatives** summarises the site selection process for the Salamander Project, alternatives considered and the reasons for selecting the chosen option, in the context of the Salamander Project's obligations with regards to the EIA regulations. Consultation is a key part of this process informing all stages and has helped to refine the project through wider spatial, design and process considerations.

- 12.3.1.4 Not all design alternatives considered within the broader EIA context are relevant to the potential residual harm identified with regards to European Sites (see 'Step 2', **section 11**). Therefore, only the following potential options are considered further at this stage:

- Developable area and layout;
- Number of turbines;
- Minimum lower tip height (height of turbine blades above sea surface) and rotor diameter.
- Operational adjustments (i.e. shutdown periods)

12.3.2 Developable Area and Layout

- 12.3.2.1 Once constructed and operational, WTGs within the Offshore Array Area present a risk of causing distributional responses in the seabird species identified in **Section 6**. For the purposes of assessment within the Offshore RIAA the total area used for assessment of potential distributional responses was 92.17 km² in line with NatureScot guidance (the Offshore Array Area plus a 2 km buffer). Generally, any reduction in total extent of the Offshore Array Area will result in reduced distributional effects on seabirds. The Offshore Array Area has been refined a number of times during the site selection process, taking into account a range of environmental and layout engineering considerations and constraints, including ornithology (see **Volume**

³¹Scottish Government, Sectoral Marine Plan for Offshore Wind Energy, available [here](#).

A2, Chapter 3: Site Selection and Consideration of Alternatives). This process resulted in an Offshore Array Area extent (33.25 km²) and location that is deemed sufficient to accommodate the range of designs within the proposed project design envelope. This extent and location was presented at scoping and carried through unchanged to the Application.

- 12.3.2.2 The Salamander Project's Offshore Array Area is of a scale that limits the ecological benefit that might be derived from a targeted reduction in the developable area. Survey data indicates that seabird densities across the site are generally relatively uniform (**Volume ER.A.4, Annex 12.1: Offshore Ornithology Baseline Data Report**), this indicates that area specific refinement actions would be unlikely to provide a targeted benefit to affected seabird species. Furthermore, for an Offshore Array Area of this size the proportionate contribution to the area used for assessment by the buffer is substantial, thus, any reduction in the extent of the Offshore Array Area is unlikely to result in a significant reduction in assessed impact. Notwithstanding this point, the Offshore Array Area will likely be reduced and refined post-consent submission through development of the Design, Specification and Layout Plan (DSLPL) as further technical detail is understood, potentially resulting in a reduced footprint.
- 12.3.2.3 At present the Salamander Project must maintain the Offshore Array Area extent specified in the project design envelope to safeguard against technical constraints that are not yet sufficiently understood to inform layout design. Whilst design options across all project design envelope parameters remain under consideration, it is crucial to be able to maintain some flexibility for the DSLP process in layout and micro-siting. There remains the potential for unmitigable ground conditions to restrict layout and siting. If this were further restricted by an Offshore Array Area reduction this could result in limitations on design options available and or result in a reduction annual energy production through sub-optimal siting and wake effects, ultimately undermining the Salamander Projects viability and jeopardising the development.
- 12.3.2.4 For the above reasons it is therefore considered that a commitment on layout or an Offshore Array Area reduction would impact the viability of the Salamander Project and therefore the achievement of the objectives detailed in **Table 10-2** and therefore does not represent a feasible alternative.

12.3.3 Number of Turbines

- 12.3.3.1 It is recognised that the number of WTGs that a wind farm development has, is one factor that may affect collision risk for bird species. The Salamander Project is an innovation scale project. The upper limit on development capacity for projects of this kind has been specified by Scottish Government as 100 MW (Scottish Government 2022a). At project inception through to the base case developed for EIA Scoping, consideration was given to the need to minimise impacts by having fewer WTGs. However, it was also critical to maintain a sufficient number of WTGs that would allow for a generating capacity up to the defined maximum development capacity threshold, noting the importance for the project to remain commercially viable and to contribute to the development of the supply chain. A project design envelope approach has been followed for the Application, allowing for further refinement of the final design once key technical and commercial information is known. As result a maximum design scenario (MDS) of 7 WTGs was identified at the EIA scoping stage and is presented within the Application.
- 12.3.3.2 The EIAR project description does not define individual WTG generating capacity (**Volume A.2, Chapter 4: Project Description**). However, by committing to a maximum of 7 WTGs this will likely have to result in individual WTG capacity that is greater than that of other currently operational floating offshore wind farm sites. The exact size, model and capacity of the WTGs has not yet been decided. However, the design envelope will allow for necessary flexibility with regards to supply chain and a competitive basis for procurement. At this stage in the design process, any commitment to a further reduction in the number of

WTGs below the MDS would jeopardise project viability. Maintaining generating capacity with fewer WTGs, whilst potentially technically feasible, would narrow the range of the design envelope and therefore introduce commercial constraints and procurement risk associated with having fewer commercially available options for WTGs. Furthermore, reducing WTG numbers would push towards and potentially beyond the very upper limit of the design envelope. This would have a knock on effect in relation to other technical design parameters e.g. foundation sizing. Such changes would themselves result in further technical constraints in terms of capacity within suitable Scottish ports and commercial constraints regarding availability of suitable components. Recognising the advancement of WTG technology, fewer larger WTGs may be selected. However, if larger WTGs are not available at the time of ordering or suitable for the size or type of floating foundation selected, then the design envelope allows for a smaller WTG to be selected in higher numbers i.e. up to maximum of 7, thus maintaining the generation capacity of the Salamander Project and ensuring viability.

- 12.3.3.3 A reduction in the MDS for number of turbines is therefore not considered to be a feasible alternative on the basis that it could jeopardise the commercial viability of the Salamander Project, therefore preventing the achievement of the objectives detailed in **Table 10-2**.

12.3.4 Minimum Lower Tip Height (Height of Turbine Blades Above Sea Surface) and Rotor Diameter

- 12.3.4.1 Raising the height of the turbine blades and thereby moving the rotor swept area higher above the sea surface can lower collision risk for both kittiwake and gannet. In recognition of this the Salamander Project has extensively evaluated the feasibility of increasing this air gap. However, this also must be balanced against other technical constraints and uncertainties. At this point in the project design and with the floating substructure options still under consideration, it is not possible to commit to increasing the air gap until further key design and procurement decisions have been made.
- 12.3.4.2 The maximum rotor swept area has been reduced since scoping however, it is not possible for the Salamander Project to commit to an increase to the minimum air gap above 22 m due to the spill over effects on the tower and foundation sizing with significant technical design and supply chain implications. An increase to tower height would introduce design feasibility issues as well as having the potential to significantly limit fabrication options whilst also re-introducing constraints issues associated with radar, aviation and visual impact. Notably the necessity for a taller tower to place the nacelle farther above the water surface would drive a requirement for a larger foundation. Whilst technically feasible to deliver a suitable foundation design, the more the foundations dimensions are increased, the more difficult it will be to accommodate them in suitably situated Scottish ports for both assembly and integration.
- 12.3.4.3 The current design envelope for foundation draught is such that only 3 Scottish ports are currently considered feasible, due to their locations and the requisite depths to satisfy the requirements for foundation and WTG integration. Increasing foundation sizing beyond the current envelope will rule out any existing Scottish port based on currently available depths. The expansion of such ports is unlikely as the investment required for upgrades is unbearable for an innovation scale project nor would it likely fit within the timescale requisite to support the Salamander Project's objectives. The only possible alternative would be to use ports outside Scotland for both assembly and integration, which is contrary to the stated objectives of the Salamander Project (see **Table 10-2**) and those of the CES INTOG leasing process (CES, 2022). This

represents a fundamental issue demonstrating that a commitment to increased air gap does not represent a viable alternative for the Salamander Project.

12.3.4.4 In addition to these fundamental issues, a commitment to increased sizing to allow for increased air gap has other consequences that may impact project viability thus further undermining this as a realistic project alternative given the established need for the Salamander Project. These implications include:

- A reduction in availability of suitable specialised vessels for towing and installation, shore based heavy-lifting cranes and mooring options
- An increase to the mass of entrained carbon in the whole foundation supply chain with no increase in generation capacity;
- Increases to manufacturing and installation costs (e.g. more material, longer process, more complex logistics).

12.3.4.5 For the reasons detailed above an increase to the minimum lower tip height of the blades is not considered a feasible design alternative for the Salamander Project as it would jeopardise the core project objectives detailed in **Table 10-2**.

12.4 Other Operational Measures

12.4.1 Operational Shutdowns During Relevant Times

12.4.1.1 Operational shutdown of turbines would not be feasible because the features identified within Step 2 (**Section 11**) do not have distinct and well-established behaviour that would enable shutdown over distinct and brief periods of time. Operational shutdown over extended periods would reduce the electricity output of the Salamander Project and significantly reduce the overall capacity. This would hinder the achievement of objective 5 and most likely render the Salamander Project not feasible on financial grounds. It is therefore considered not to be a feasible alternative to the Salamander Project as planned.

13 Step 4: Assessment and Comparative Analysis of Feasible Alternative Solutions

13.1.1.1 Step 4 would involve an assessment and comparative analysis of the relevant impacts of any identified feasible alternatives in respect of European sites comprised in the UK site network. However, as the previous Steps (1 – 3) demonstrate there are no feasible alternatives to the Salamander Project in the wider context or at the project level through securable design commitments. In the absence of any identifiable feasible alternatives no further comparative analysis is necessary.

14 Summary and Overall Conclusions on Alternative Solutions

14.1.1.1 The purpose of this section has been to demonstrate objectively to Scottish Ministers and MD-LOT that there are no feasible alternatives for the Salamander Project.

14.1.1.2 Potential alternative solutions have been identified and considered as part of Step 3 above. The assessment of alternative solutions provided in this report demonstrates that there are no feasible alternative solutions that would have a lesser effect on the integrity of the European sites noted in **Table 6-1**. The conclusions of this assessment have been summarised in **Table 14-1** below.

Table 14-1: Summary of potential alternative options discounted for the Salamander Project

Category	Alternative option considered	Reason for which alternative option was discounted
Do Nothing (Section 12.1)	Not Progressing the Salamander Project	Does not meet project need and does not deliver any of the project objectives.
Alternative Locations (Section 12.2)	Array located not in the UK EEZ	Does not meet project need and does not deliver all of the project objectives.
	Array locations in UK EEZ but out with Scotland	Does not meet project need and does not deliver all of the project objectives (and no evidence this would avoid impacts on European sites).
	Array locations within other Scottish sites and leasing rounds	Does not meet project need and does not deliver all of the project objectives (and no evidence this would avoid impacts on European sites).
	Other leasing areas permitted within the INTOG leasing round	Does not meet project need and does not deliver all of the project objectives (and no evidence this would avoid impacts on European sites).
Other scales or designs or methods of construction (Section 12.3)	Number of Turbines	A reduction below the MDS of 7 WTGs would result in either a reduced generating capacity for the project rendering it not financially viable or force the design towards the upper end of the PDE across all technical design parameters placing significant constraints on the project, notably in relation to the procurement options available thus potentially hindering the achievement of all key project objectives
	Developable area and layout	A reduction in the developable area would place significant technical constraints on the project with regards to its ability to micro-site and adjust layout in relation to unknown ground conditions and or in the selection of design components. Further to this it has potential to reduce generation capacity through wake effects, rendering the project non-viable financially thus potentially hindering the achievement of all key project objectives
	Minimum lower tip height (height of Turbine Blades Above Sea Surface)	Reducing the projects air gap would result in design parameters, in particular with regards to foundation sizing that might render Scottish ports unviable and thus potentially hindering the achievement of all key project objectives.
Other Means of Operating / Timing (Section 12.4)	Operational shutdowns during relevant times	Operational shutdown of turbines would not be feasible because the features under consideration do not have distinct and well-established migratory behaviour over a brief period of time. Therefore, shutdown would be required for extended periods which would reduce the

Category	Alternative option considered	Reason for which alternative option was discounted
		electricity output of the Project and is not feasible on financial grounds.

14.1.1.3 The consideration of alternative solutions must be approached on a reasonable basis, with reference to the genuine project objectives designed to serve the identified need. Each step must be grounded in real world considerations of feasibility (legal, technical, and commercial). With that in mind, the Applicant has undertaken a comprehensive analysis of potential alternative options which is considered sufficient to enable Scottish Ministers and MD-LOT to be objectively satisfied as to the absence of any feasible alternative solutions to the Salamander Project.

Part 3: Imperative Reasons of Overriding Public Interest

Report to Demonstrate IROPI

15 Introduction to Imperative Reasons of Overriding Public Interest

- 15.1.1.1 The Habitat Regulations Appraisal (HRA) derogation provisions provide that a project having an Adverse Effect on Integrity (AEOI) on a European site may proceed (subject to a positive conclusion on alternatives and provision of any necessary compensation) if the project must be carried out for reasons of Imperative Reasons of Overriding Public Interest (IROPI) that justify the project despite the environmental damage it may cause.
- 15.1.1.2 **Part 3** of the without prejudice derogation case is provided to demonstrate that Scottish Ministers can be satisfied that there are IROPI for the Salamander Project, should their Appropriate Assessment conclude any AEOI in respect of any European Sites.
- 15.1.1.3 This part of the document (Report to Demonstrate IROPI) sets out a compelling case that the Salamander Project must be carried out for IROPI in view of its social and economic benefits, which align with (and are needed to achieve) Scottish and UK Government policy aspirations and legal commitments.
- 15.1.1.4 The case submitted demonstrates that the Salamander Project can play a major role in developing the Scottish supply chain for the pipeline of floating ScotWind projects, provide substantial social and economic stimulus to the local area and contribute directly and indirectly to Scotland and UK’s legally binding climate change targets by helping to decarbonise the UK’s energy supply.

15.2 Content and Structure of Part 3

- 15.2.1.1 The IROPI information in this Part of the report is structured as set out **Table 15-1**: Structure of the IROPI Case in Part 3 of this report. Table 15-1 below;

Table 15-1: Structure of the IROPI Case in Part 3 of this report.

Section title	Section in report	Section content
The Salamander Project IROPI case	Section 16.1	Consideration of the scope of the IROPI.
	Section 16.2	Imperative: demonstration of the urgency and importance of the Salamander Project.
	Section 16.3	Public interest: The interest must be a public rather than a solely private interest (although a private interest can coincide with delivery of a public objective).
	Section 16.4	Long-term interest: demonstration of the long-term nature of the interests that the Salamander Project will serve.
	Section 16.5	Overriding: demonstration of the public interest balance weighing in favour of the Salamander Project in the context of its impacts on the relevant European Sites.
	Section 16.6	Relevant UK Examples: Provides some relevant UK examples of offshore wind development considered to demonstrate IROPI.
	Section 16.7	A Balancing Exercise: Presents a summary of the effects of the Salamander Project weighed against the benefits outlined in preceding sections
IROPI conclusion	Section 17	The final conclusion that there are IROPI to support the Salamander Project.

16 Legislative and Policy Context for IROPI

16.1 The Scope of IROPI

16.1.1.1 The parameters of IROPI are touched on briefly within published NatureScot guidance (2023) are explored further in other guidance notes such as DEFRA 2012 and Managing Natura 2000 (EC, 2018), which identify the following principles:

- Imperative – Urgency and importance: There would usually be urgency to the objective(s) and it must be considered "indispensable" or "essential" (i.e. imperative). In practical terms, this can be evidenced where the objective falls within a framework for one or more of the following:
 - actions or policies aiming to protect fundamental values for citizens' life (health, safety, environment);
 - Fundamental policies for the State and the Society; or
 - activities of an economic or social nature, fulfilling specific obligations of public service.
- Public interest: The interest must be a public rather than a solely private interest (although a private interest can coincide with delivery of a public objective).
- Long-term: The interest would generally be long-term; short-term interests are unlikely to be regarded as overriding because the conservation objectives of the Habitats and Birds Directives are long term interests.
- Overriding: The public interest of development must be greater than the public interest of conservation of the relevant European site(s).

16.2 Imperative

16.2.1 The Global Imperative: "Actions to Protect Fundamental Values for Citizens' Life: Health, Safety, Environment"

16.2.1.1 Climate change is the defining challenge of our time. The impacts of climate change are global in scope and unprecedented in human existence. The science linking the concentration of greenhouse gas emissions to the average global temperature on Earth is unequivocal. The Intergovernmental Panel on Climate Change's Sixth Assessment Report stated that *'Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming...Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people'* (IPCC, 2023).

16.2.1.2 The Scottish Government recognises that Scotland is already experiencing effects of climate change such as warmer summers and wetter winters, and that climate projections for the next century indicate that these trends will not only continue, but intensify.³²

16.2.1.3 No offshore wind projects in Scotland have yet been consented through the HRA derogation provisions. In six previous examples of offshore wind projects in England where the HRA derogation provisions have been relied upon for consent (Hornsea Three, Norfolk Vanguard, Norfolk Boreas, East Anglia ONE North, East Anglia Two and Hornsea Four), the SoS considered that the benefit served by the offshore wind farm was 'essential and urgent'. In the Hornsea Three Decision, the SoS determined that the consequences of not contributing to the objective of limiting the extent of climate change would be "severely deleterious to

³² Climate Change Policy, Scottish Government, [Adaptation to climate change - Climate change - gov.scot \(www.gov.scot\)](https://www.gov.scot/adaptation-to-climate-change)

societies across the globe, including the UK, to human health, to social and economic interests and to the environment” (paragraph 6.37).

- 16.2.1.4 By its own nature as a renewable energy project, but more importantly through its aim to expedite and facilitate the delivery of floating offshore wind, particularly Scotland’s 23 GW pipeline of large scale floating wind projects³³, the Salamander Project will make a significant contribution to this aspect of the imperative.

16.2.2 The UK Context: (“Fundamental Policies for the State and the Society”)

- 16.2.2.1 This section sets out below unequivocal evidence that the objectives of the Salamander Project fall within a framework of fundamental policies for the state and the society it serves.

Climate Change

- 16.2.2.2 The UK and Scotland have demonstrated global leadership on climate change by putting in place a comprehensive set of measures to reduce greenhouse gas emissions through investment in renewables. The Scottish Government has a net-zero emissions target for 2045, alongside interim targets of a 75% reduction by 2030 and a 90% reduction by 2040. There are statutory annual targets for every year leading up to 2045.
- 16.2.2.3 The most recent climate change risk assessment for the UK published by the UKs Climate Change Committee (CCC, 2021) highlights a series of risks to the UK from climate change. Sixty-one risks and opportunities were identified in the report and many of these risks could be combatted by the deployment of large-scale offshore wind resource such as the Salamander Project itself and the pipeline of projects it will facilitate.

Decarbonisation and Offshore Wind.

- 16.2.2.4 The Draft Energy Strategy and Just Transition Plan (Scottish Government, 2023a) clearly states that the advancement of renewable energy developments in Scotland are key to supporting these targets; the target that 50% of the energy used for Scotland’s heat, electricity, and transport, is to be supplied by renewable energy sources by 2030, and that consideration is being given to increasing the offshore wind generation target upwards of the current 8-11GW by 2030 in light of the ScotWind and INTOG leasing rounds. The UK target is 50GW by 2030.
- 16.2.2.5 This urgency of these targets is amplified by recent evidence from the Climate Change Committee stating the rate of UK offshore wind deployment needs to increase from 2.7 GW in 2022 to 4.5 GW per year if the 50GW by 2030 target is to be reached (CCC, 2023). Given the development of large scale offshore wind farms typically takes upwards of eight years, the existing Scottish pipeline will be key to reaching that target. Salamander’s urgent role in enabling that pipeline is therefore paramount.

Economic Opportunity and Just Transition.

- 16.2.2.6 The Draft Energy Strategy and Just Transition Plan (2023a) presents a vision where Scotland’s future energy system ‘will deliver maximum benefits for Scotland, enabling us to...deliver a just transition for our workers, businesses, communities and regions.’ The Just Transition Plan has a clear objective of ‘boosting jobs, our domestic supply chain and manufacturing capabilities.’ The Scottish Government’s National Strategy for

³³ The Salamander Project has the potential to enable future large scale floating offshore wind projects. In Scotland this comprises 19GW of floating capacity leased through Crown Estate Scotland’s ScotWind leasing round, and a further 4GW of large-scale floating projects leased as part of the TOG stream of the INTOG leasing round.

Economic Transformation (Scottish Government, 2022c) also includes supporting Scotland's net zero supply chains as a priority.

- 16.2.2.7 The importance and urgency of the Salamander Project here flows from 1) the need for innovation projects like the Salamander Project to be delivered *before* the larger commercial scale projects in Scottish waters so that risk reduction, cost reduction and commercialisation of innovations can take place; and 2) the *urgent* need for anticipatory investment in the Scottish supply chain to ensure Scotland can maximise the economic opportunity that net zero brings i.e. ensure indigenous supply chain facilities, particularly ports and manufacturing, are available for commercial scale projects to use.

Energy Security and Affordability

- 16.2.2.8 UK and Scottish policy emphasise the importance of energy security through development of domestic resource³⁴. The importance and urgency of this policy has been compounded by Russia's invasion of Ukraine which directly impacted UK energy prices for consumers. The British Energy Security Strategy (HM Government, 2022) states: *"European gas prices soared by more than 200% last year and coal prices increased by more than 100%. This record rise in global energy prices has led to an unavoidable increase in the cost of living in the UK, as we use gas both to generate electricity, and to heat the majority of our homes."*
- 16.2.2.9 By expediting the delivery of floating offshore wind, de-risking future projects and enabling cost reductions, the Salamander Project aligns fully with this imperative.

16.2.3 Socioeconomic Benefits: "Activities of an Economic or Social Nature, Fulfilling Specific Obligations of Public Service"

- 16.2.3.1 Building on **16.2.2.6**, this section outlines the specific socioeconomic benefits of public interest that the Salamander Project will deliver. Importantly, and as in **sections 16.2.1** and **16.2.2**, The Salamander project brings both direct benefits as a renewable energy development in its own right and indirect benefits as a facilitator of the commercial scale floating offshore wind pipeline in Scotland.

Development of Local Supply Chain Capacity and Capability

- 16.2.3.2 The Salamander Project has been designed to directly address the need to develop the future local supply chain to maximise the economic benefits of offshore wind build out to Scotland.
- 16.2.3.3 Firstly, the Salamander Project aims to demonstrate that Scottish ports are capable of delivering floating offshore wind, helping to increase investor confidence. The Salamander Project is yet to make final technology selections but has accounted for selecting a foundation type with a sufficiently low draft requirement that it can be assembled and launched from numerous Scottish ports via the project design envelope parameters. Further socioeconomic studies examining comparative GVA and job creation from a shortlist of potential foundation types and ports are underway and will inform the Salamander Project's final foundation selection.
- 16.2.3.4 The UK Infrastructure Bank estimates that approximately £3.45bn of investment is needed by 2030 in order to realise the UK Government's ambitions of 50 GW of offshore wind and 5 GW of floating offshore wind (UK IB, 2023). Another study by Royal Haskoning DHV found £4bn of investment is needed in integration and manufacturing/assembly ports (Royal Haskoning DHV, 2023).

³⁴ Draft Energy Strategy (Scottish Government, 2023) and British Energy Security Strategy (HM Government, 2022)

- 16.2.3.5 The Salamander Project is already working with a number of key ports in Scotland to help tackle technical and commercial risks which are proving barriers to investment.
- 16.2.3.6 The Salamander Project’s innovation package also includes a number of Scottish supply chain companies which the project will work with to ready their technologies for commercial roll out in the ScotWind portfolio. Each has the potential to contribute its own socioeconomic benefits. Selecting a floating foundation that could be manufactured and assembled at a Scottish port could result in an over 60% increase in high-value local manufacturing content in large-scale projects. This, in turn, could bring an additional £1 billion in direct, indirect and induced economic value to Scotland per gigawatt and 20,000 additional direct, indirect and induced full-time equivalent (FTE) job-years.
- 16.2.3.7 Finally, the Salamander Project’s established partnerships with innovation organisations have been designed to ensure there is a clear pathway for the supply chain to develop and commercialise new products through the Salamander Project, which they can then take to both the local and global markets.
- 16.2.3.8 As well as deploying innovations as part of its core design, once operational one of the Salamander Project’s turbines will be available as a ‘Salamander Demonstration Hub’. Whilst not altering the design envelope of the turbine, innovative supply chain companies will be able to test, validate and demonstrate their technologies in a real-world floating offshore wind environment, enabling them to progress from Technology Readiness Level (TRL) 4 all the way to TRL9 ready for commercial roll out.
- 16.2.3.9 The ScotWind leasing round required developers to submit a Supply Chain Development Statement (SCDS) to CES detailing commitments and ambitions for supply chain spend in Scotland, the rest of the UK, Europe and elsewhere, at each stage of the project’s development. Based on these statements, CES states the average anticipated investment in Scotland is £1.5bn per project, or a total of ~£30bn across the ScotWind portfolio alone. That investment is heavily contingent on the local supply chain having the capacity and capability to service the Scottish projects.

Economic productivity

- 16.2.3.10 It is estimated that the Salamander Project could deliver an additional £110.5 million of direct, indirect and induced GVA per annum across the UK during the construction period (according to data provided by the applicant) **Table 16-1** and £60.6 million of direct, indirect, and induced GVA over 35 years of operations and maintenance (in 2023 prices) **Table 16-2**.

Table 16-1: Estimated total Gross Value Added per annum (over the three-year construction period)

	Estimated Direct GVA per annum	Estimated Indirect GVA per annum	Estimated Induced GVA per annum	Estimated Total GVA per annum
Aberdeen City / Aberdeenshire	£6,348,935	£2,770,380	£2,162,181	£11,281,497
Rest of Scotland	£41,593,130	£18,149,307	£14,164,878	£73,907,314
Rest of UK	£11,777,257	£7,578,980	£5,915,119	£25,271,356
Total				£110,460,167

Table 16-2: Estimated Total Operation and Maintenance Gross Added Value

	Estimated Direct GVA	Estimated Indirect GVA	Estimated Induced GVA	Estimated Total GVA
Aberdeen City / Aberdeenshire	£2,574,325	£933,023	£614,201	£4,121,549
Rest of Scotland	£17,037,741	£6,175,055	£4,064,988	£27,277,784
Rest of UK	£18,243,383	£6,612,021	£4,352,639	£29,208,042
Total				£60,607,376

Source: ERM Analysis (2023)

- 16.2.3.11 Due to the Salamander Project’s nature as a facilitator of the 23 GW³⁵ of future large scale floating offshore wind pipeline in Scotland, its contribution to public benefit through investment could be considered to be far greater than the figures presented here for the Salamander Project itself.
- 16.2.3.12 As stated above, the Salamander Project also aims to increase investor confidence in Scottish ports – a vital step if the UK is to stay on track to deliver its 2030 net zero and offshore wind targets. The UK Infrastructure Bank points out that ports play an important role in regenerating and stimulating regional and local economic growth. UK ports create £10.8 billion in direct GVA each year, and every £1 spent on a port has a multiplying impact of £2.87 on the economy. Ports provided 126,000 jobs across the UK in 2022,¹ often relatively well-paid and in less economically prosperous regions (UK IB, 2023).

Employment

- 16.2.3.13 A report for the Offshore Renewable Energy Catapult’s Floating Offshore Wind Centre of Excellence estimated over 31,000 active jobs will be required in the UK to support the base case floating wind buildout by 2040 with the majority of this capacity expected to be in Scottish waters (Catapult ORE, 2022).
- 16.2.3.14 Salamander itself is expected to create 491 UK jobs during the construction period (see **Table 16-3**) and a further 33 in the operations and maintenance phase (see **Table 16-4**).

Table 16-3: Estimated employment opportunities (per annum over the three year construction period)

	Estimated direct FTE Jobs (per annum)	Estimated Indirect FTE Jobs (per annum)	Estimated Induced FTE Jobs (per annum)	Total
Aberdeen City / Aberdeenshire	28	12	8	48

³⁵ The Salamander Project has the potential to enable future large scale floating offshore wind projects. In Scotland this comprises 19GW of floating capacity leased through Crown Estate Scotland’s ScotWind leasing round, and a further 4GW of large-scale floating projects leased as part of the TOG stream of the INTOG leasing round.

Rest of Scotland	182	80	51	313
Rest of UK	76	33	21	130
Total	286	125	80	491

Source: Volume ER.A.3, Chapter 19 Socio Economics, Tourism and Recreation

Table 16-4: Annual estimated Operation and Maintenance employment opportunities

	Estimated Direct FTE Jobs (per annum)	Estimated Indirect FTE Jobs (per annum)	Estimated Induced FTE Jobs (per annum)	Total
Aberdeen City / Aberdeenshire	1	1	0	2
Rest of Scotland	8	4	3	15
Rest of UK	9	4	3	16
Total	18	9	6	33

Source: Volume ER.A.3, Chapter 19 Socio Economics, Tourism and Recreation

Creation of New Markets

- 16.2.3.15 As an innovation project, the Salamander Project is designed to demonstrate and ready for commercial roll out numerous innovative technologies. The Salamander Project’s innovation package is designed to open up multiple new market opportunities for Scotland and the UK.

Skills Development

- 16.2.3.16 The Salamander Project will commit in its forthcoming Supply Chain Development Statement to a number of initiatives to support skills development. As an early floating project delivered through the local supply chain, the Salamander Project can make a significant contribution to skills development in Scotland by sharing early data and knowledge.
- 16.2.3.17 The project has already supported education and STEM outreach programmes and skills events in the north east of Scotland including:
- Sponsorship of TechFest’s STEMNext essay competition to support school leavers’ early CV development;
 - involvement of students from North East Scotland College and Peterhead Academy at each series of public consultation events;

- establishing knowledge partnerships with Peterhead Academy and Fraserburgh Academy and providing support to the Scottish Maritime Academy.

Sharing Intellectual Property and Knowledge

16.2.3.18 Key to meeting the Salamander Project's objectives will be the project's knowledge partnerships, established to ensure learnings from the Salamander Project can be used to support the wider industry. These include:

- Offshore Renewable Energy (ORE) Catapult
- Net Zero Technology Centre (NZTC)
- Energy Technology Partnership
- Peterhead Developer's Forum (a group of developers bringing forward infrastructure projects in the vicinity of Peterhead, established proactively by the Salamander Project with the aim to ensure coordination, collaboration and shared learnings.)

16.2.3.19 Many of the innovations being developed by the Salamander Project, such as those being delivered with universities, research organisations and local communities, are deliberately non-commercial in nature. These innovations will be openly available to the organisations that want to use them, for commercial gain or otherwise, in the pursuit of cost and risk reduction for the entire industry. In these cases, no attempt will be made by the Salamander Project to protect resulting intellectual property. Crucially, valuable learnings from the Salamander Project will lie within the local supply chain, by virtue of its role in delivering the project. This IP and knowledge will increase the competitiveness of the local supply chain.

16.2.3.20 Community benefit

16.2.3.21 Beyond the benefits of the community of wider economic development, employment and skills development, the Salamander Project aims to develop specific support for the fisheries community which is one of the region's most important sectors. As part of this, the Salamander Project is already supporting a programme of research related to fisheries co-existence including:

- Over £150,000 of funding for the PREDICT project, led by the University of Aberdeen and the University of the Highlands and Islands' Environmental Research Institute. The resultant data will help inform understanding of fish migration patterns as well as feeding grounds for seabirds and mammals, and how best to avoid impact on these from windfarms. This data will also lead to enhanced knowledge of fish stocks and help fishing vessels improve catch levels.
- The Salamander Project is working with the National Decommissioning Centre to model the windfarm to its simulation centre between Peterhead and Aberdeen. This model will be adapted to allow fishers to practice navigation and fishing in proximity of floating wind farms.

16.2.3.22 As part of the Salamander Project's commitment to having a nature positive impact, the project has invested £50,000 in the Scottish Marine Environmental Enhancement Fund (SMEEF) to fund a mapping exercise which will identify opportunities for marine nature restoration in Scotland. The results of this work will also support future projects to ensure nature positive impact.

16.3 Public Interest

16.3.1.1 Managing Natura 2000 (EC, 2018) acknowledges that it is the nature of the interest, not the party promoting that interest, that must be public: "As regards the "other imperative reasons of overriding public interest" of social or economic nature, it is clear from the wording that only public interests, irrespective of whether

they are promoted either by public or private bodies, can be balanced against the conservation aims of the Directive.”

- 16.3.1.2 While the Applicant is a private entity, the strategy to harness the UK and Scotland's offshore wind resource to produce renewable electricity can only be delivered through the private sector. The identification and development of offshore sites, including INTOG sites, for that purpose is a fundamental national policy pursued within a clear framework, which seeks to protect the environment and human health from the consequences of climate change and maximise both the wider economic and societal benefits to Scotland. Critically, these are state-led policies.
- 16.3.1.3 Therefore, the policy drivers for offshore wind clearly lie in and serve the public interest. However, delivery of that public interest must be through private companies such as the joint venture partners involved in the Salamander Project given there is no public route to do so. Ørsted A/S has around 30 years' experience and a strong track record developing, building, and operating offshore wind farms; globally, Ørsted has installed 8.9 GW of offshore wind capacity, with a further 13.3 GW under construction and a pipeline of projects in development. Seaway7, the renewables arm of Subsea7, has been instrumental in delivering over 11 GW of offshore wind projects in the UK. Simply Blue Group is a leading blue economy developer focused on replacing fossil fuels with clean ocean energy, the company has a pipeline of over 10GW of offshore wind projects across the globe. These projects make substantial contributions to public interests including contributing to climate change targets, supporting the delivery of affordable, secure low carbon energy and delivering other public benefits such as employment, education, skills, infrastructure and biodiversity enhancements. The Salamander Project aims to deliver similar public benefits, with an emphasis on those which arise from a thriving local offshore wind supply chain.
- 16.3.1.4 It is beyond doubt that projects developed by private bodies can be considered where such public interests are served, as in this case.

16.4 A long Term Interest

- 16.4.1.1 For IROPI to arise, the public interest would usually be long-term. Each public interest identified above is a long-term UK and Scottish interest: addressing climate change, protecting the human species and the environment; decarbonisation; energy security and affordability; and economic contribution and just transition in the form of supporting development of local supply chain capacity and capability, supporting the case for investment, creation of new market opportunities, employment opportunities, skills development, sharing intellectual property and knowledge; and delivery of associated community benefits.
- 16.4.1.2 The direct benefits of the Salamander Project derived from its own construction, operation and maintenance are considerable. As per the application documentation, it is expected to have a lifespan of 35 years (not including the potential for life extension or repowering). Yet the indirect benefits that the Salamander Project will bring by facilitating delivery of the commercial scale pipeline of floating offshore wind is even greater. Many of these projects, if realised, will be delivering clean energy well into the 2060s and beyond. Electricity demand is predicted to rise and there is a long-term interest in ensuring that the lights remain on, whilst also meeting decarbonisation targets and combatting climate change. Furthermore, one of the Salamander Project's objectives is to ensure long-term economic value by partnering with innovation organisations to create a pathway for the supply chain to develop and commercialise new products for the global market. This vision of a Scotland as a 'destination for innovation and technical development' would see this new Scottish supply chain exporting goods and services to other markets for many decades to come. It is

noteworthy that this long-term economic opportunity is time bound. If Scotland does not realise this vision it will become an importer of these goods and services.

16.5 Overriding Interest

16.5.1.1 Consideration of IROPI necessarily involves a balancing exercise and an exercise of planning judgement by the decision maker, which in the case of the Application is Scottish Ministers.

16.5.1.2 As set out in Reg 49(1) of the The Conservation (Natural Habitats, &c.) Regulations 1994:

“If they are satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), the competent authority may agree to the plan or project notwithstanding a negative assessment of the implications for the site.”

16.5.1.3 The scope of the balancing exercise has been set out in various ECJ decisions. In case C-43/10 it was stated:³⁶

“An interest capable of justifying, for the purposes of Article 6(4) of Directive 92/43, the implementation of a plan or project must be both ‘public’ and ‘overriding’, which means that it must be of such an importance that it can be weighed against that directive’s objective of the conservation of natural habitats and wild fauna, including birds, and flora.”

16.5.1.4 In C-239/04, in his Opinion, the Advocate General summarised this as:

“the necessity of striking a balanced result in particular from the concept of “override”, but also from the word “imperative”. Reasons of public interest can imperatively override the protection of a site only when greater importance attaches to them. This too has its equivalent in the test of proportionality, since under that principle the disadvantages caused must not be disproportionate to the aims pursued.”

16.5.1.5 Recent draft Scottish Government guidance (DTAa, 2021) and EU Regulations lend support to the presumption that renewable energy in general is IROPI. The draft Scottish Government guidance stated:

“considerable weight should be given to their contributions to limiting climate change in accordance with the objectives of [climate change targets]” and “wind farm proposals deliver a national scale public interest on the grounds of energy security and supply as well as beneficial consequences of primary importance to the environment in respect of climate change.”

16.5.1.6 It went on to state:

“it is highly unlikely that the public interest served by delivery of offshore wind proposals will not override the conservation interest (...but there may be exceptional circumstances where the imperative reasons of overriding public interest test cannot be passed)”.

16.5.1.7 An EU Council Regulation was adopted in December 2022³⁷ in response to the energy crises that resulted from Russia’s invasion of Ukraine. Amongst other things, this provided at Article 3:

‘1. The planning, construction and operation of plants and installations for the production of energy from renewable sources, and their connection to the grid, the related grid itself and storage assets shall be presumed as being in the overriding public interest and serving public health and safety when balancing legal interests in the individual case, for the purposes of [the Habitats Directive and the Birds Directive]. Member States may restrict the application of those provisions to certain parts of their

³⁶ Nomarchiaki Aftodioikisi Aitoloakarnanias and Others, C-43/10, paragraph 121.

³⁷ Council Regulation (EU) 2022/2577 (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R2577>)

territory as well as to certain types of technologies or to projects with certain technical characteristics in accordance with the priorities set in their integrated national energy and climate plans.'

2. Member States shall ensure, at least for projects which are recognised as being of overriding public interest, that in the planning and permit-granting process, the construction and operation of plants and installations for the production of energy from renewable sources and the related grid infrastructure development are given priority when balancing legal interests in the individual case. Concerning species protection, the preceding sentence shall only apply if and to the extent that appropriate species conservation measures contributing to the maintenance or restoration of the populations of the species at a favourable conservation status are undertaken and sufficient financial resources as well as areas are made available for that purpose.

16.5.1.8 This creates a rebuttal presumption for EU states that renewable energy projects meet the IROPI test and ought to be granted subject to compensatory measures being in place. This aligns with the draft Scottish guidance.

16.5.1.9 As the Salamander Project is not only a renewable energy project itself, but furthermore aims to facilitate the delivery of a far greater pipeline of renewable energy projects, and with it an even greater benefit to health, safety and environment and activities of a social and economic nature, the Applicant puts forward that its delivery can be considered of 'overriding' interest.

16.6 Relevant UK Examples involving Offshore Wind Demonstrating Imperative Reasons of Overriding Public Interest

16.6.1 Scottish Examples

16.6.1.1 Shortly after the submission of the Salamander Project Application, the Secretary of State for Energy and Climate Change granted a derogation for the Hornsea Four offshore wind farm. Due to the timing of this derogation it has not been possible to consider the application of that derogation to the Salamander Project. However, it does provide a Scottish Standard and Unique Evidence Determination precedent for a IVTOS offshore wind project demonstrating IROPI. This is the first such example in the Scottish context. In the wider UK context several other offshore wind projects have previously been approved by the Secretary of State having demonstrated IROPI and been considered to meet the derogation tests.

16.6.2 Hornsea Project Four

16.6.2.1 Ørsted is developing Hornsea Four which is a consented offshore windfarm (OWF) of up to 180 wind turbines with an electrical capacity in the region of 2.7 GW located 69km from the coast of east Yorkshire. Subsequent to the Examination of the Hornsea Four DCO, the SoS could not rule out an AEOI on the kittiwake and guillemot features of the FFC SPA in-combination with other plans or projects. Having satisfied himself that there were no alternative solutions to Hornsea Four, the SoS therefore considered whether Hornsea Four was required for IROPI and was satisfied that there were IROPI for Hornsea Four to proceed.

16.6.3 Norfolk Vanguard

16.6.3.1 Vattenfall is developing Norfolk Vanguard (East and West), which is a consented offshore wind farm with a proposed capacity of up to 1.8 GW located 47 km from the Norfolk coast. Following Examination of the DCO examination, the kittiwake features of the FFC SPA, lesser black-backed gull feature of the Alde-Ore Estuary SPA/ Ramsar and Annex 1 sandbank and reef features of the Haisborough, Hammond and Winterton SAC

could not be ruled out for AEOI. It was determined that there were no alternative solutions and that the project met the tests for IROPI and was granted a DCO.

16.7 A Balancing Exercise

16.7.1 The Salamander Projects Overriding Interest set against the Envisaged Harm.

16.7.1.1 It is for Scottish Ministers to carry out a balancing exercise against any risk of harm (and the degree of such harm). To inform the Scottish Minister's exercise of judgement as to the planning balance the following sections consider the predicted impacts on the European sites and species in **Table 16-5** against the clear public interest in the Salamander Project.

Table 16-5: Summary of the Salamander Project’s predicted impacts on the relevant Special Protection Areas and their qualifying species

Species	Site	Current population (individuals) (from Burnell et al 2023 ³⁸)	Citation Population and proportion of wider populations where noted ³⁹	Full or Without Prejudice Derogation Case	Quantification of Effect (bird mortalities per year)	
					Applicant’s Approach	SNCB Approach
Kittiwake	Buchan Ness to Collieston Coast SPA	22,590	60,904 individuals 6.2% of the GB population	Full Derogation Case	9.0	11.9-19.7
	East Caithness Cliffs SPA	48,958	65,000 individuals, 7% of the GB population, 1% of North Atlantic bio-geographic region	Without Prejudice Derogation Case	1.4	1.9-3.1
	Farne Islands SPA	8,804	-	Without Prejudice Derogation Case	0.1	0.2-0.3
	Forth Islands SPA	9,084	16,800 individuals, 1.7% of the GB population	Without Prejudice Derogation Case	0.2	0.3-0.4
	Fowlsheugh SPA	28,078	73,300 individuals,, 7.5% of the GB population, 1.2 % of World population	Full Derogation Case	1.9	2.5-4.1
	North Caithness Cliffs SPA	11,142	26,200 individuals, 3% of the GB population	Without Prejudice Derogation Case	0.2	0.3-0.5
	St Abb’s Head to Fast Castle SPA	10,300	42,340 individuals, 4% of the GB population	Without Prejudice Derogation Case	0.2	0.3-0.4

³⁸ Burnell et al (2023)

³⁹ As available via NatureScot sitelink website: <https://sitelink.nature.scot/home>

Species	Site	Current population (individuals) (from Burnell et al 2023 ³⁸)	Citation Population and proportion of wider populations where noted ³⁹	Full or Without Prejudice Derogation Case	Quantification of Effect (bird mortalities per year)	
					Applicant's Approach	SNCB Approach
Kittiwake	Troup Pennan and Lion's Head SPA	21,232	63,200 individuals in 1995; 6% of the British population and 1% of the total population	Full Derogation Case	3.0	3.9-6.5
	<i>Total for the kittiwake for the Full Derogation Case</i>				<i>13.9</i>	<i>18.3-30.3</i>
	<i>Total for the kittiwake across all sites</i>				<i>16.0</i>	<i>21.3-35</i>
Razorbill	East Caithness Cliffs SPA	40,373	15,800 individuals, 1.8% of total A. t. islandica biogeographic population	Without Prejudice Derogation Case	0.08	0.1-0.3
	Fowlsheugh SPA	18,844	5,800 individuals, 3.9% of the GB population	Without Prejudice Derogation Case	0.4	1.5-2.5
	Troup Pennan and Lion's Head SPA	6,054	4,800 individuals	Without Prejudice Derogation Case	0.3	0.9-1.6
	<i>Total for razorbill for the Full Derogation Case</i>				<i>Zero</i>	<i>Zero</i>
	<i>Total for the razorbill across all sites</i>				<i>0.78</i>	<i>2.5-4.4</i>
Gannet	Forth Islands SPA	150,518	43,200 individuals,,13.6% of the GB population	Without Prejudice Derogation Case	1.6	2.0-3.8
	Hermaness, Saxa Vord & Valla Field SPA	59,124	32,800 individuals in 1999, 8% of the British and 6% of the world population	Without Prejudice Derogation Case	0.6-1.3	0.7-1.4

Species	Site	Current population (individuals) (from Burnell et al 2023 ³⁸)	Citation Population and proportion of wider populations where noted ³⁹	Full or Without Prejudice Derogation Case	Quantification of Effect (bird mortalities per year)	
					Applicant's Approach	SNCB Approach
<i>Total for gannet for the Full Derogation Case</i>					Zero	Zero
<i>Total for gannet across all sites</i>					2.2-2.9	2.7-5.2
Puffin	Forth Islands SPA	85,846	28,000 individuals, 3.1% of the GB population	Without Prejudice Derogation Case	0.6	3.8
<i>Total for puffin for the Full Derogation Case</i>					Zero	Zero
<i>Total for puffin across all sites</i>					0.6	3.8

16.7.1.2 Impacts on the Outer Firth of Forth and St Andrews Complex SPA are not summarised within **Table 16-5** on account of the site having no reference population itself with it being indirectly impacted via population effects on the functionally linked breeding sites: Buchan Ness to Collieston Coast SPA, Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Troup Pennan and Lion's Head SPA.

16.7.1.3 In these predictions, the Applicant has applied the precautionary principle to ensure full consideration of impacts to the sites that are both potentially significant and yet uncertain. Many parameters represent a highly precautionary reflection of the maximum scale and impact of the project. On that basis it is the Applicant's firmly held conclusion from the assessments that the Salamander Project alone will have no AEIO on any European Site. However, it is clear that in-combination with other plans and projects there exists a greater risk from impacts. Notwithstanding this, it is the Applicant's position in most cases that the relative contribution of the Salamander Project is inconsequential or negligible in nature and therefore where this is the case these sites and species are included on a without prejudice basis. The Applicant has concluded that AEIO in-combination cannot be ruled out beyond all reasonable scientific doubt for kittiwake at Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA and Troup, Pennan and Lion's Head SPAs and also as a result the foraging SPA Outer Firth of Forth and St Andrews Complex SPA.

16.7.2 The Salamander Project

- 16.7.2.1 If the Scottish Ministers HRA concludes AEIO either inline with the Applicant's assessment conclusions and position or otherwise, then the Scottish Ministers must determine where the balance lies between the public interest of conserving biodiversity and the public interest(s) provided by the project. In the case of the Salamander Project, it will, despite the measure of harm predicted, serve the interest of conserving biodiversity. As global warming accelerates, warmer winter sea temperatures have caused shifts in the abundance and quality of seabird prey species such as sandeel, with knock-on effects for seabirds. In addition, an increase in the frequency of extreme weather events could affect breeding habitat and create unfavourable foraging conditions, which may lead to increased mortality of adults and chicks. The Salamander Project will provide a significant enabling contribution to alleviating one of the key anthropogenic pressures on the seabirds: climate change driven reductions in prey availability.
- 16.7.2.2 The Habitats Regulations require that compensatory measures are provided to counter a project's predicted adverse impacts and ensure overall coherence of the UK Site Network, is maintained. The Applicant will meet the cost of the compensatory measures required for potential damage caused to the SPAs in order to protect the overall coherence of the UK Site Network.
- 16.7.2.3 As an offshore renewables energy generation project capable of exceeding 50 MW capacity, the Salamander Project is considered a national development under National Planning Framework 4 (NPF4). The Salamander Project also has more specific national strategic importance to Scotland as an INTOG, Innovation project, enabling the future pipeline of commercial scale offshore wind projects and maximizing the Scottish supply chain benefits. Ultimately, ensuring the of protection of local communities, property, and infrastructure and to ensure a reliable supply of electricity for the Scotland and the rest of the UK in the long-term. Concurrently, the transition to renewable energy is more beneficial ecologically than a continuous reliance on fossil fuels. If Scottish Ministers conclude AEIO, it is considered the finding would be marginal and based upon highly precautionary assumptions. The requirements of the HRA Derogation Provisions can readily and clearly be met, in the marginal circumstances of the Salamander Project.
- 16.7.2.4 The long-term public interest that the Salamander Project delivers, must outweigh the potential harm to the individual European sites which are the subject of this submission. There are no alternatives to the Salamander Project. As the project is a fundamental component of the Scotland's plan, need and obligations to address climate change, the potential harm is clearly outweighed by the clear public interest. Ultimately

the decision over a long-term renewable energy strategy versus predicted adverse impacts (which the Applicant considers to be highly precautionary) on a European site rests with the Scottish Ministers.

17 The Salamander Project's IROPI Conclusions

- 17.1.1.1 This submission demonstrates a compelling case that the Salamander Project is indispensable and must be carried out for IROPI.
- 17.1.1.2 Climate change is the defining challenge of our time providing a clear imperative for action. The Salamander Project will make a significant contribution towards Scotland's actions to address this challenge. It will do so both as a renewable energy project itself but also, more importantly, through its aim to expedite and facilitate delivery of floating offshore wind, particularly within Scotland's 23 GW pipeline of commercial floating wind projects.
- 17.1.1.3 Scottish and UK Governments have set ambitious targets for the deployment of offshore wind. If these are to be achieved it is crucial that enabling actions, such as those of the Salamander Project, are undertaken at the earliest opportunity to ensure the earliest possible up-scaling of deployment and the long-term supply of renewable energy.
- 17.1.1.4 The Salamander Project also responds to the Scottish Government's Draft Energy and Just Transition Plan's vision that the energy system '*will deliver maximum benefits for Scotland*'. Key objectives of the proposal are focused on developing local supply chain capability and capacity to ensure readiness for the larger commercial projects currently within the sectors development pipeline. The Salamander Project will also contribute materially to the economic and social landscape in Scotland and the local area through, through skills development, generating employment opportunities and knowledge sharing.
- 17.1.1.5 If the Scottish Ministers' HRA conclusions align with those presented within the Applicant's RIAA and finds AEOI with respect to any of the Special Protection Areas identified on a without prejudice basis within **Section 6** of this report, then there is a demonstrable overriding public interest in the Salamander Project and the policy objectives it will serve, which outweighs the risk of any adverse impact on these sites.

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