



Bellrock Offshore Wind Farm

Wind Farm Development Area

Environmental Impact Assessment Report - Volume II

Chapter 14: Marine Infrastructure and Other Users

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Glossary of Terminology

| Term | Definition |
|---|---|
| Applicant | Bellrock Offshore Wind Farm Limited, the legal entity submitting Section 36 Consent and Marine Licence applications for the Bellrock Wind Farm Development Area. |
| Bellrock Offshore Wind Farm (The Bellrock Project) | <p>An offshore wind farm capable of exporting up to 1.8 GW of renewable energy to the National Electricity Transmission System.</p> <p>The Wind Farm Development Area is located 120 km east of Stonehaven, and will connect to the National Electricity Transmission System at the proposed SSEN Transmission Hurlie substation, west of Stonehaven in Aberdeenshire. The Bellrock Offshore Wind Farm comprises of the following Development Areas:</p> <ul style="list-style-type: none"> ▪ Wind Farm Development Area; ▪ Offshore Transmission Development Area; and ▪ Onshore Transmission Development Area. |
| Cable protection | Protective measure to minimise the effects of scour and hazards along the inter-array cables, and protecting these cables at infrastructure crossing points. |
| Development Area | <p>For consenting purposes, the area for which separate consents and/or Marine Licences will be sought by the Applicant, comprising:</p> <ul style="list-style-type: none"> ▪ Wind Farm Development Area; ▪ Offshore Transmission Development Area; and ▪ Onshore Transmission Development Area. |
| Floating offshore unit | The combined wind turbine generator and floating substructure. |
| Floating substructure | A floating structure which provides buoyancy and, in conjunction with the station keeping system, supports a superstructure (e.g. wind turbine generator or offshore substation), and maintaining its position within the structure's excursion limit. |
| Inter-array cable | Armoured cable containing electrical and fibre optic cores, which link the wind turbine generators to each other and to the subsea cable hubs and/or the offshore substations and include dynamic inter-array cable and static inter-array cable sections. |
| Project design envelope | Includes all relevant technical, spatial and temporal elements of the Wind Farm Infrastructure, and the proposed methodology to be employed for construction, operations and maintenance, and decommissioning. |
| ScotWind | A Crown Estate Scotland leasing round for offshore wind projects in which the process enabled developers to apply for seabed rights to plan and build wind farms in Scottish waters. |
| Scour protection | Protective material positioned around anchors to avoid sediment being eroded as a result of the flow of water. |
| Station keeping system | The system (including mooring lines and anchors) used to hold a floating offshore unit within its excursion limit and maintain the intended orientation of the floating offshore unit. |

| Term | Definition |
|-------------------------------------|--|
| Site preparation works | <p>Preparatory activities undertaken within the Wind Farm Development Area prior to the commencement of construction of the Wind Farm Infrastructure, which may comprise (and which may require separate consents):</p> <ul style="list-style-type: none"> ▪ Geophysical surveys, geotechnical surveys, and non-archaeological/archaeological diver/ remotely operated vehicle surveys; ▪ Seabed preparation including sand wave levelling, slope levelling for gravity based anchors (if selected), boulder clearance, and pre-lay grapnel runs; ▪ Unexploded ordnance survey and/or clearance; ▪ Debris clearance; and ▪ Out of service cable/pipeline removal. |
| SSEN Transmission Hurlie substation | <p>The onshore substation to be developed by SSEN Transmission, which will receive renewable electricity from the Bellrock Project onshore substation and allow supply of renewable electricity from the wind farm to the National Electricity Transmission System.</p> |
| Subsea cable hub | <p>A subsea device, with a gravel pad foundation, which allows the connection of multiple inter-array cables.</p> |
| Wind Farm Development Area | <p>The boundary within which the Wind Farm Infrastructure will be constructed, operated and maintained, and decommissioned.</p> |
| Wind Farm Infrastructure | <p>Infrastructure located within the Wind Farm Development Area including wind turbine generators; floating substructures, station keeping systems and associated scour protection; inter-array cables and associated cable protection; subsea cable hubs; and ancillary infrastructure including buoys (including activities associated with the Wind Farm Infrastructure construction, operation and maintenance, and decommissioning).</p> |

Glossary of Abbreviations

| Term | Definition |
|-------------|--|
| CaP | Cable Plan |
| CEA | Cumulative Effects Assessment |
| CES | Crown Estate Scotland |
| CMS | Construction Method Statement |
| COLREGs | Convention on the International Regulations for Preventing Collisions at Sea |
| DP | Decommissioning Programme |
| DSLPL | Development Specification and Layout Plan |
| EGL | Eastern Green Link |
| EIA | Environmental impact assessment |
| EMP | Environmental Management Plan |
| ERCoP | Emergency Response Cooperation Plan |
| ESCA | European Subsea Cable Association |
| FOU | Floating offshore unit |
| FSS | Floating substructures |
| GW | Gigawatt |
| IAC | Inter-array cables |
| IA-CaP | Inter-array Cable Plan |
| INTOG | Innovation and Targeted Oil and Gas |
| ISEP | Institute of Sustainability and Environmental Professionals |
| km | Kilometre |
| LMP | Lighting and Marking Plan |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| MCA | Maritime and Coastguard Agency |
| MD-LOT | Marine Directorate - Licensing Operations Team |
| MOD | Ministry of Defence |
| MPCP | Marine Pollution Contingency Plan |
| nm | Nautical Miles |

| Term | Definition |
|-------------|--|
| NLB | Northern Lighthouse Board |
| NSP | Navigational Safety Plan |
| NSNR | North Sea Natural Resources |
| NSTA | North Sea Transition Authority |
| OftDA | Offshore Transmission Development Area |
| OMP | Operation and Maintenance Plan |
| PEXA | Practice and exercise areas |
| SAR | Search and Rescue |
| SIMOPS | Simultaneous Operations |
| SKS | Station keeping systems |
| SMP-OWE | Sectoral Marine Plan for Offshore Wind Energy |
| SOLAS | International Convention for the Safety of Life at Sea |
| SOMP | Seabed Obstruction Mitigation Plan |
| SSEN | Scottish and Southern Electricity Transmission |
| UK | United Kingdom |
| UKHO | UK Hydrographic Office |
| UXO | Unexploded ordnance |
| VMNSP | Vessel Management and Navigational Safety Plan |
| VMP | Vessel Management Plan |
| WFDA | Wind Farm Development Area |
| WTG | Wind turbine generators |

14 Marine Infrastructure and Other Users

14.1 Introduction

1. This Chapter of the Bellrock Wind Farm Development Area (WFDA) Environmental Impact Assessment (EIA) Report presents an assessment of potential effects on marine infrastructure and other users from the construction, operation and maintenance (O&M), and decommissioning phases of the Bellrock Wind Farm Infrastructure.
2. The Bellrock Wind Farm Infrastructure comprises wind turbine generators (WTGs); floating substructures (FSSs), station keeping systems (SKSs) and associated scour protection; inter-array cables (IACs) and associated cable protection; subsea cable hubs; and ancillary infrastructure including buoys. Further detail on the Bellrock Wind Farm Infrastructure is provided in **Chapter 4: Project Description (Volume II)**.
3. This Chapter of the Bellrock WFDA EIA Report has been prepared to provide the Marine Directorate - Licensing and Operations Team (MD-LOT) (on behalf of the Scottish Ministers) and stakeholders with sufficient information to determine the potential effects of the Bellrock Wind Farm Infrastructure on marine infrastructure and other users receptors.
4. This Chapter should be read in conjunction with the following chapters of the Bellrock WFDA EIA Report:
 - **Chapter 12: Shipping and Navigation (Volume II)**;
 - **Chapter 13: Aviation and Radar (Volume II)**;
 - **Chapter 16: Socioeconomics, Tourism and Recreation (Volume II)**; and
 - **Chapter 19: Major Accidents and Disasters (Volume II)**.
5. The marine infrastructure and other users assessment is likely to have key inter-relationships with the above chapters, which will be considered appropriately throughout this Bellrock WFDA EIA Report.
6. This Chapter was prepared by Haskoning.

14.2 Legislation, Policy and Guidance

7. **Table 14.1** describes the legislation, policy and guidance which have been considered in the preparation of this Chapter. The overarching policy and legislation relevant to the Bellrock Wind Farm Infrastructure is described in **Chapter 2: Policy and Legislative Context (Volume II)**.

8. Any legislation referred to in this EIA Report is as subsequently amended and as currently in force as at the date of this EIA Report.

Table 14.1: Summary of Relevant Legislation, Policy and Guidance for Marine Infrastructure and Other Users

| Relevant Policy or Guidance | Relevance to the Assessment |
|--|--|
| Policy | |
| <p>National Planning Framework 4 (Scottish Government, 2023a)</p> | <p>The National Planning Framework 4 2023 policies of relevance to marine infrastructure and other users are:</p> <ul style="list-style-type: none"> ▪ Part 2 – National Planning Policy, Policy 11 (Energy) - Mentions the development of offshore wind farms and other technologies; ▪ Part 3 - Annex B, Policy 3 - Strategic Renewable Electricity Generation and Transmission Infrastructure; ▪ Part 3 – Annex B, Policy 15 - Industrial Green Transition Zones – Comments on other technologies such as Carbon Storage and hydrogen developments; and ▪ Annex C – Spatial Planning Priorities. |
| <p>Scotland’s National Marine Plan (2015) (Scottish Government, 2015)</p> <p>The SNMP is currently being updated, transitioning to the Scottish National Marine Plan 2. Consultation on the SNMP ran from 5 November 2024 to 7 February 2025 and a consultation analysis report has been produced by the Scottish Government (2025).</p> | <p>Scotland’s National Marine Plan sets out strategic policies for the sustainable development of Scotland’s marine resources out to 200 nautical miles (nm). The Plan highlights Marine planning policies applicable to infrastructure and other marine users, including interactions with other users:</p> <ul style="list-style-type: none"> ▪ Development: Energy developments can displace fishing. The cabling arrays associated with energy and telecoms developments, and other physical infrastructure associated with development, have the potential for short-term displacement of fishing activity during the installation phase. ▪ Gen 4 Co-existence: Proposals which enable coexistence with other development sectors and activities within the Scottish marine area are encouraged in planning and decision-making processes, when consistent with policies and objectives of this Plan. ▪ Fisheries 2: The following key factors should be considered when deciding on uses of the marine environment and the potential impact on fishing: “The potential effect of displacement on: fish stocks; the wider environment; use of fuel; socioeconomic costs to fishers and their communities and other marine users.” |
| <p>UK Marine Policy Statement (HM Government, 2011)</p> | <p>The UK Marine Policy Statement is the framework for preparing Marine Plans and taking decisions affecting the marine environment. It informs the standard approach to planning and decision making regarding Marine Plans. Many sections are of note to infrastructure and marine users, including:</p> <p><i>“The evidence base will be developed from a wide range of sources including existing plans, the plan area community, science advisors, statutory and other advisors, industry and other marine users”.</i></p> |

| Relevant Policy or Guidance | Relevance to the Assessment |
|---|--|
| <p>Update to the 2020 Offshore Wind Policy Statement: Scotland's Offshore Wind Ambition (Scottish Government, 2026)</p> | <p>The Scottish Government is resetting its offshore wind policy ambition to up to 40 GW of new offshore wind capacity by 2040, in addition to the already operational or consented capacity (as of August 2025 when the consultation ended) this updated ambition:</p> <ul style="list-style-type: none"> ▪ Reaffirms our commitment to supporting the delivery of the existing project pipeline, including ScotWind and INTOG projects; ▪ Clarifies that no further offshore wind leasing rounds are planned in the near term; and ▪ Establishes a clear and realistic timescale – 2040 – rather than 2035-2040. <p>This is directly relevant to marine infrastructure and other users because it promotes new offshore wind developments and therefore the requirement for consideration of coexistence between users of the marine environment.</p> |
| <p>Sectoral Marine Plan – Offshore Wind Energy (Scottish Government, October 2020c)</p> <p>(The 2020 SMP is undergoing review to reflect the ScotWind and Innovation and Targeted Oil and Gas (INTOG) leasing rounds, and is anticipated to be published in summer 2026).</p> | <p>The Sectoral Marine Plan has been developed in accordance with the National Marine Plan (2015) to address interactions between renewable development and other marine users through identifying sustainable plan options for the future development of commercial-scale offshore wind energy in Scotland.</p> <p>It was developed through extensive analysis, consideration and engagement with stakeholders, and it aimed to maximise the benefits for Scotland, communities and the environment whilst ensuring economic recovery aligns with climate ambitions, highlighting the need to ensure compatibility with other projects and marine users in Scotland.</p> |
| <p>Draft updated Sectoral Marine Plan for Offshore Wind Energy (May 2025)</p> <p>(The 2020 SMP is undergoing review to reflect the ScotWind and Innovation and Targeted Oil and Gas (INTOG) leasing rounds, and is anticipated to be published in summer 2026).</p> | <p>The draft updated Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) sets out an integrated planning framework for both the ScotWind and Innovation and Targeted Oil and Gas (INTOG) leasing rounds alongside consideration of additional capacity for test and demonstration projects. It has been informed by the latest scientific evidence and sets out the opportunities as well as the constraints of developing offshore wind in Scottish waters. It provides clarity, certainty and confidence to ensure development is sustainable, responsible and balances the needs of communities, nature and other users of the sea.</p> |
| <p>Guidance</p> | |
| <p>European Subsea Cable Association (ESCA) guidelines</p> | <p>ESCA guideline no.6 <i>“The Proximity of Offshore Renewable Energy Installations & Submarine Cable Infrastructure in UK Waters”</i> provides a framework for collaborative working between the offshore wind farms and subsea cable developments.</p> |

14.3 Consultation

9. Consultation undertaken to date for the Bellrock WFDA relevant to marine infrastructure and other users has been in line with the general process described in **Chapter 5: EIA Methodology (Volume II)**. Key consultation pertinent to this Chapter is provided in **Table 14.2** below.

10. The Applicant has undertaken consultation with key marine users in the study area (as detailed in **Section 14.6**), including with Ossian Offshore Wind Farm, North Sea Natural Resources (NSNR), Orcadian Energy and Scottish and Southern Electricity Networks (SSEN) Transmission, to discuss details of the Wind Farm Infrastructure and wider Bellrock Project and discuss management of any potential interactions with the Bellrock WFDA .

Table 14.2: Consultation Relevant to Marine Infrastructure and Other Users

| Consultee | Document/Date | Comment | How/Where Comment is Addressed |
|-------------------------------------|--|---|---|
| BT Radio Network Protection Team | Representation on the Bellrock WFDA Scoping Report (2024). | <p>BT has studied the Bellrock WFDA proposal with respect to [Electromagnetic Compatibility] and related problems to BT point-to-point microwave radio links.</p> <p>The conclusion is that the Bellrock WFDA should not cause interference to BT’s current and presently planned radio network. BT requires 100 m minimum clearance from any structure to the radio link path.</p> | <p>Noted. No relevant changes have been made/are proposed since submission of the Bellrock WFDA Scoping Report (see Appendix 1.1: Bellrock WFDA Scoping Report, (Volume IV) (Bellrock Offshore Wind Ltd, 2024) of the Bellrock EIA Report).</p> |
| Defence Infrastructure Organisation | Representation on the Bellrock WFDA Scoping Report (2024). | <p>Practice and Exercise Areas also known as PEXA, are designated areas of the sea where military exercises can be undertaken. Chapter 12 Aviation and Radar (Volume II), Paragraph 12.4.1.3 [of the Bellrock WFDA Scoping Report] acknowledges Ministry of Defence (MoD) PEXAs.</p> <p>Chapter 13 Marine Infrastructure and Other Users (Volume II), Paragraph 13.4.6 (1016) [of the Bellrock WFDA Scoping Report] states that the Bellrock Wind Farm Infrastructure is not contained within the vertical limits of any military PEXA and, therefore military PEXA is scoped out of the EIA. The MoD agrees with this statement in relation to PEXA.</p> | <p>Noted. PEXAs are scoped out of this Chapter and are considered in Chapter 13: Aviation and Radar (Volume II) of the Bellrock EIA Report.</p> |
| Defence Infrastructure Organisation | Representation on the Bellrock WFDA Scoping Report (2024). | <p>The potential for unexploded ordnance (UXO) to be present within the development area and the necessity for clearance should be considered. The potential presence of UXO and disposal sites should be a consideration during the installation and decommissioning of turbines, cables, and any other infrastructure, or where other intrusive works are necessary.</p> | <p>If UXO clearance is required during site preparation works or during construction, a separate Marine License application(s) will be made prior to UXO clearance works, with an accompanying assessment of UXO clearance on marine infrastructure and other users. UXOs are not considered further in this Chapter.</p> |

| Consultee | Document/Date | Comment | How/Where Comment is Addressed |
|----------------------|---|--|--------------------------------|
| Eastern Green Link 2 | Meeting, 15 October 2025. | Eastern Green Link 2 (EGL2) representative concluded that given the distance between EGL2 and the Bellrock WFDA and given that the EGL2 project is planned to be operational before the Bellrock WFDA commences construction, there will be no interaction between the Bellrock WFDA and the EGL2 project. | Noted. |
| Eastern Green Link 3 | <p>Email 13 October 2025: Issue of the Bellrock Project Update / Pre-application Consultation letter and invite to the Pre-application Consultation.</p> <p>Email 29 October 2025: Issue of the virtual Pre-application Consultation event flyer and reminder of the event's details.</p> | A Bellrock Project update consultation letter outlining key updates to the Bellrock Project since Bellrock WFDA scoping and details on the virtual consultation event. The flyer subsequently reminded of the virtual consultation event that was held in November 2025 inviting them to attend and discuss any issues. | No response. |
| Eastern Green Link 5 | <p>Email 13 October 2025: Issue of the Bellrock Project Update / Pre-application Consultation letter and invite to the Pre-application Consultation.</p> <p>Email 29 October 2025: Issue of the virtual Pre-application Consultation event flyer and reminder of the event's details.</p> | A Bellrock Project update consultation letter outlining key updates to the Bellrock Project since Bellrock WFDA scoping and details on the virtual consultation event. The flyer subsequently reminded of the virtual consultation event that was held in November 2025 inviting them to attend and discuss any issues. | No response. |
| Harbour Energy | <p>Email 13 October 2025: Issue of the Bellrock Project Update / Pre-application Consultation letter and invite to the Pre-application Consultation.</p> <p>Email 29 October 2025: Issue of the virtual Pre-application Consultation event flyer and reminder of the event's details.</p> | A Bellrock Project update consultation letter outlining key updates to the Bellrock Project since Bellrock WFDA scoping and details on the virtual consultation event. The flyer subsequently reminded Harbour Energy of the virtual consultation event that was held in November 2025 inviting them to attend and discuss any issues. | No response. |

| Consultee | Document/Date | Comment | How/Where Comment is Addressed |
|---------------------|---|---|---|
| Joint Radio Company | Representation on the Bellrock WFDA Scoping Report (2024). | <p>This proposal is cleared with respect to radio link infrastructure operated by the local energy networks. Joint Radio Company (JRC) analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.</p> <p>In the case of the Bellrock WFDA, JRC does not foresee any potential problems based on known interference scenarios and the data provided. However, if any details of the WFDA change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.</p> | Noted. Noting the increase in the number of turbines between the Bellrock WFDA Scoping Report (Appendix 1.1 in Volume IV), the WFDA boundary itself has not changed. The maximum blade tip height has also reduced since the Bellrock WFDA Scoping Opinion Appendix 1.2: Bellrock WFDA Scoping Opinion (Volume IV) has been received. |
| Joint Radio Company | Response to the Bellrock Project Update Consultation Letter which outlined the key updates on the Bellrock Project since Scoping (14 October 2025). | <p>JRC note that they previously cleared the Bellrock WFDA in May 2024, as per the previous Scoping Opinion. They note in response to the consultation letter of 14 October 2025, that the proposed changes include some onshore grid connection elements. JRC will need to be consulted on any onshore elements, due to possible impact of this infrastructure on protected links.</p> <p>No further information was provided regarding the increased number of WTGs.</p> | Noted. |
| MD-LOT | Bellrock WFDA Scoping Opinion (2024). | The Scottish Ministers are broadly content with the study area as defined in Section 13.4.1 of the Scoping Report. | Noted. See Section 14.5.1 below for information regarding the marine infrastructure and other users study area. |
| MD-LOT | Bellrock WFDA Scoping Opinion (2024). | Baseline data sources are considered in Section 13.4.2 [of the Bellrock WFDA Scoping Report]. The Scottish Ministers consider the baseline data gathered for the assessment is appropriate. | Noted. See Section 14.6 below for characterisation of the baseline information. |

| Consultee | Document/Date | Comment | How/Where Comment is Addressed |
|-----------|---------------------------------------|--|--|
| MD-LOT | Bellrock WFDA Scoping Opinion (2024). | Table 13.3 of the Scoping Report presents the impacts the Applicant proposes to scope in to and out of the EIA Report during the different phases of the Bellrock WFDA. The Scottish Ministers are broadly content with the impacts scoped in and out for assessment in the EIA Report. | Noted. See Section 14.11 below for summary of which impacts have been scoped in and out for marine infrastructure and other users. |
| MD-LOT | Bellrock WFDA Scoping Opinion (2024). | The Scottish Ministers note the representation from SSEN Transmission which outlines nearby licensed and future subsea transmission infrastructure. The Scottish Ministers request that the Developer fully considers the SSEN Transmission representation and its nearby transmission infrastructure in the EIA Report. | Noted. Further discussions have been undertaken with SSEN Transmission's EGL2, EGL3 and EG5 projects (as presented within this table). Further discussion with SSEN Transmission's EGL2, EGL3 and EG5 projects will be undertaken in due course as part of the Bellrock Offshore Transmission Development Area (OfTDA) EIA. See Section 14.5.1 below. |
| MD-LOT | Bellrock WFDA Scoping Opinion (2024). | The Scottish Ministers emphasise the importance of engaging with other marine users, including developers of ScotWind and INTOG projects, during all phases of the Bellrock WFDA. | Noted. The Applicant is an active member of the Northeast and East Ormithological Group and meet regularly with other offshore wind developers at this forum. The Applicant will continue to engage with other marine users such as other existing and proposed offshore wind farms (including ScotWind and INOG Projects) and owners of relevant oil and gas licence blocks in the vicinity of the Bellrock WFDA. |
| MD-LOT | Bellrock WFDA Scoping Opinion (2024). | The Scottish Ministers agree with the approach to cumulative assessment and agree that transboundary effects can be scoped out of assessment in the EIA Report. | Noted. See Section 14.4.2 below for methodology of the Cumulative Effects Assessment (CEA) and Section 14.9 below for the CEA. |

| Consultee | Document/Date | Comment | How/Where Comment is Addressed |
|---------------------------------------|--|---|--|
| North Sea Transition Authority (NSTA) | Representation on the Bellrock WFDA Scoping Report (2024). | There are limited considerations from an NSTA perspective given the WFDA does not overlay directly with any infrastructure associated with oil and gas or carbon storage. The Scoping Report has identified the plugged and abandoned wells within the study area and has also identified the other extant oil and gas licences the wind farm does directly overlay. The Applicant has identified the licensees and states they will be consulted which is important to ensure alignment of any planned or future activity within the licences such as seismic shooting, well drilling or infrastructure development. | Noted. See Section 14.8.1.2 below for details on the potential impacts on offshore oil and gas operations. Further details are provided within this table on the Applicant's pre-application engagement with existing licence holders (NSNR, Orcadian Energy and Harbour Energy). The Applicant will continue to consult with licensees and relevant stakeholders. |
| NSNR | Update and Simultaneous Operations meetings (2024 to 2025). | Consultation with NSNR has involved a number of update meetings, and Simultaneous Operations meetings with their drilling campaign and the Bellrock WFDA geophysical survey campaign. | N/a |
| NSNR | Meeting, 30 July 2025. | Details of the Bellrock WFDA were shared with NSNR, and interactions with NSNR's planned activities with their oil and gas licence blocks was discussed. NSNR confirmed that they would seek to take into consideration Bellrock Wind Farm Infrastructure in their planning of any future oil and gas infrastructure (e.g. platforms and pipelines). With regards to any future crossings between NSNR's pipelines and Bellrock inter-array cables, a crossing agreement will be negotiated between both parties to facilitate any such crossings. | Noted. Impacts to oil and gas industry are considered in Section 14.8.1.2 (construction), Section 14.8.2.2 (O&M) and Section 14.8.3.2 (decommissioning). Potential cumulative impacts are discussed in Section 14.9 . |
| Orcadian Energy | Email 13 October 2025: Issue of the Bellrock Project Update / Pre-application Consultation letter and invite to the Pre-application Consultation. Email 30 October 2025: Issue of the virtual Pre-application Consultation event flyer and reminder of the event's details. | A Bellrock Project update consultation letter outlining key updates to the Bellrock Project since Bellrock WFDA scoping and details on the virtual consultation event. The flyer subsequently reminded Orcadian Energy of the virtual consultation event that was held in November 2025 inviting them to attend and discuss any issues. | No response. |

| Consultee | Document/Date | Comment | How/Where Comment is Addressed |
|---------------------------|--|---|--|
| Ossian Offshore Wind Farm | Ongoing informal consultation. | The Applicant and Ossian have informed each other of plans and activities and provided ongoing informal project updates as required | N/A |
| SSEN Transmission | Representation on the Bellrock WFDA Scoping Report (2024). | SSEN Transmission requested the consultation period be extended as the Bellrock project interacts with three of their development projects. SSEN Transmission confirm they are in regular contact with the Applicant however would welcome an opportunity to respond to the consultation. | <p>The Applicant has engaged with SSEN Transmission outside the scoping process, through the pre-application stage.</p> <p>The three projects referred to are Eastern Green Link 2 (EGL2), Eastern Green Link 3 (EGL3) and Eastern Green Link 5 (EGL5).</p> <p>See ELG2, EGL3 and EGL5 rows above for details on further consultation.</p> |
| All | Pre-application Consultation letter and project update (October 2025). | A Bellrock Project update consultation letter, emailed to 210 stakeholders outlining key updates to the Bellrock Project since Bellrock WFDA scoping. The letter also notified the stakeholders of the virtual consultation event that was held in November 2025. | Details of this consultation (including a copy of the consultation letter) are provided in Appendix 5.2: Pre Application Consultation Report (Volume IV) . |

14.4 Assessment Methodology

14.4.1 Impact Assessment Methodology

11. **Chapter 5: EIA Methodology (Volume II)** provides a summary of the general impact assessment methodology applied in the Bellrock WFDA EIA Report. The assessment will use the conceptual 'source-pathway-receptor' model. The model identifies potential impacts resulting from the proposed activities on the environment and sensitive receptors within it.
12. A desk-based study was undertaken to inform the marine infrastructure and other users assessment. **Table 14.7** sets out the key desk-based information and data sources that have been used to inform the marine infrastructure and other users EIA, allowing for the identification and scoping process of potential impacts associated with the development of the Bellrock WFDA.

14.4.1.1 Definitions of Sensitivity and Magnitude

13. The characterisation of the existing environment helps to determine the receptor sensitivity in order to assess the potential impacts upon it.
14. Sensitivity is defined with regard to the ability of a receptor to adapt to change, tolerate, and/or recover from potential impacts. In addition, for some assessments the value of a receptor may also be an element to add to the assessment where relevant. The sensitivity of human activities to impacts associated with the Bellrock WFDA involves consideration of the value (or importance) of the receptor or activity, and the ability of the receptor or activity to accommodate the predicted change. The criteria for defining the sensitivity of a potential impact to infrastructure and other marine users is shown in below (**Table 14.3**).

Table 14.3: Definition of Sensitivity Levels for Marine Infrastructure and Other Users Receptors

| Sensitivity | Definition |
|-------------|---|
| High | Activity/receptor is of strategic national importance (e.g. infrastructure or assets/developments) and/or of high value to the local, regional or national economy and/or has no or very limited capacity to accommodate the predicted change or interaction. |
| Medium | Activity/receptor is of regional importance (e.g. infrastructure or assets/developments) and/or of moderate value to the local, regional or national economy and/or has limited capacity to accommodate the predicted change or interaction. |
| Low | Activity/receptor is of local importance (e.g. infrastructure or assets/developments) and/or of low value to the local, regional or national economy and/or and has capacity to accommodate the predicted change or interaction. |
| Negligible | Activity/receptor is not considered to be any importance and/or of negligible value to the local, regional or national economy and/or and is capable of accommodating the predicted change or interaction. |

15. The magnitude and probability of an impact occurring is established through consideration of:
- Scale or spatial extent (small scale to large scale or a few individuals to most of the population);
 - Duration (short term to long term);
 - Likelihood of impact occurring;
 - Frequency; and
 - Nature of change relative to the baseline.
16. Definitions of the magnitude levels are given in **Table 14.4**.

Table 14.4: Definition of the Magnitude Levels for a Marine Infrastructure and Other Users Receptor

| Magnitude | Definition |
|------------|--|
| High | Fundamental, permanent/irreversible changes, over the whole receptor, and/or fundamental alteration to key characteristics or features of the particular receptor's character or distinctiveness. |
| Medium | Considerable, permanent/irreversible changes, over the majority of the receptor, and/or discernible alteration to key characteristics or features of the particular receptor's character or distinctiveness. |
| Low | Discernible, temporary (throughout project duration) change, over a minority of the receptor, and/or limited but discernible alteration to key characteristics or features of the particular receptor's character or distinctiveness. |
| Negligible | Discernible, temporary (for part of the project duration) change, or barely discernible change for any length of time, over a small area of the receptor, and/or slight alteration to key characteristics or features of the particular receptor's character or distinctiveness. |
| No change | No measurable or discernible change from baseline conditions. The impact does not result in any alternation to the receptor. |

14.4.1.2 Effect Significance

17. The potential significance of effect for a given impact, is a function of the overall sensitivity and the magnitude of the impact (see **Chapter 5: EIA Methodology (Volume II)** for further details). A matrix is used (**Table 14.5**) as a framework to determine the significance of an effect. Definitions of each level of significance are provided in **Table 14.6**. Impacts and effects may be either positive (beneficial) or negative (adverse). Impacts that are moderate or major adverse are considered to be significant in EIA terms.

Table 14.5: Matrix for Evaluating the Significance of an Effect

| Sensitivity | Magnitude | | | | |
|-------------|-----------|------------|------------|------------|-----------|
| | High | Medium | Low | Negligible | No Change |
| High | Major | Major | Moderate | Minor | No effect |
| Medium | Major | Moderate | Minor | Negligible | No effect |
| Low | Moderate | Minor | Minor | Negligible | No effect |
| Negligible | Minor | Negligible | Negligible | Negligible | No effect |

Table 14.6: Definitions of Effect Significance

| Effect Significance | Definition |
|---------------------|--|
| Major | Very large or large change in receptor condition or very large or large disturbance to an activity, both adverse or beneficial, which are likely to be important considerations at a regional or national level because they contribute to achieving national, regional or local objectives, or could result in exceedance of statutory objectives and/or breaches of legislation. |
| Moderate | Intermediate change in receptor condition or intermediate disturbance to an activity, which are likely to be important considerations at a local level. |
| Minor | Small change in receptor condition or small disturbance to an activity, which may be raised as local issues but are unlikely to be important in the decision-making process. |
| Negligible | No discernible change in receptor condition or disturbance to activity. |
| No Effect | No impact, therefore, no change in receptor condition or activity. |

14.4.2 Cumulative Effects Assessment Methodology

18. The Cumulative Effects Assessment (CEA) considered the likely significant effects of impacts arising from the activities and infrastructure associated with the Bellrock WFDA cumulatively with other relevant plans, projects and activities. The general approach to the CEA for marine infrastructure and other users included identifying potential cumulative effects, identifying a short list of plans and projects for consideration and evaluating the significance of cumulative effects. The screening for this Chapter has been based on a four-month cut off period for other projects and plans, which represents a shorter cut-off than the six months that was proposed in the Scoping Report (**Appendix 1.1: Bellrock WFDA Scoping Report (Volume IV)**). MD-LOT were consulted during the screening process as part of ongoing consultation in the pre-application phase. **Chapter 5: EIA Methodology (Volume II)** provides further details on the general approach to the CEA, including the CEA with the Bellrock Offshore Transmission Development Area (OfTDA) and Onshore Transmission Development Area (OnTDA).

19. The plans and projects selected as relevant to the CEA for marine infrastructure and other users are based upon the results of a screening exercise (see **Appendix 5.3: Cumulative Effects Assessment Long List of Projects (Volume IV)** for details). Each plan or project has been considered on a case-by-case basis for screening in or out of this assessment based upon data confidence, impact-receptor pathways and the spatial/temporal scales involved.
20. The likely significant effects of the Bellrock Wind Farm Infrastructure together with the Bellrock Offshore Transmission Infrastructure and Onshore Transmission Infrastructure, so far as these can be ascertained at this stage, are assessed as part of this Bellrock WFDA EIA Report.
21. Further assessment of the effects of the Bellrock Project as a whole will be included within the Bellrock OfTDA EIA Report and OnTDA EIA Report, which will include updated assessments of cumulative environmental impacts of the different components of the Bellrock Project.
22. In line with the methodology set out in **Chapter 5: EIA Methodology (Volume II)**, three tiers have been applied to the Bellrock WFDA CEA. As the site selection process for the Bellrock OfTDA is ongoing (see **Chapter 4: Project Description (Volume II)** for details), activities and infrastructure associated with the Bellrock OfTDA has been treated as 'other projects' for the purposes of the CEA, but have been considered within Tier 1 where relevant, due to their essential requirement for the functioning of the Bellrock Offshore Wind Farm Development Area.
23. The three tiers for CEA are:
 - Tier 1 assessment: The Bellrock WFDA plus plans/projects which are operational, under construction, those with consent or a consent application submitted but not yet determined, plus the Bellrock OfTDA and Bellrock OnTDA;
 - Tier 2 assessment: The Bellrock WFDA plus all plans/projects assessed under Tier 1, plus projects with a Scoping Report and/or Scoping Opinion; and
 - Tier 3 assessment: The Bellrock WFDA plus all plans/projects assessed under Tier 1 and Tier 2, plus those projects likely to come forward where a Crown Estate Scotland Option to Lease Agreement or equivalent has been granted.

14.4.3 Transboundary Effects Assessment Methodology

24. The transboundary effects assessment considers the potential for effects to occur as a result of the Bellrock WFDA on marine infrastructure and other users within the Exclusive Economic Zone of other European Economic Area member states or other interests of European Economic Area member states.
25. For marine infrastructure and other users, there is no potential for impacts on transboundary receptors, and therefore, transboundary effects have been scoped out. This has been agreed with MD-LOT (see **Table 14.2**) as part of the Scoping Opinion (**Appendix 1.2 (Volume IV)**).

14.5 Scope of the Assessment

14.5.1 Study Area

26. The marine infrastructure and other users study area is shown in **Figure 14.1** in **Volume III** and is defined by the Bellrock WFDA plus a 10 nm buffer to align with the shipping and navigation study area presented in **Chapter 12: Shipping and Navigation (Volume II)**.

14.5.2 Data and Information Sources

27. **Table 14.7** sets out the key desk-based information and data sources that have been used to inform the marine infrastructure and other users baseline.

Table 14.7: Key Data and Information Sources for Marine Infrastructure and Other Users

| Dataset | Year(s) | Description |
|---|---------|--|
| Disposal site location data, Marine Scotland National Marine Plan Interactive (Marine Scotland NMPi 2022) | 2022 | Contains information on disposal site locations. |
| Historic aggregate site data (Marine Scotland NMPi, 2020; Marine Scotland NMPi, 2021) | 2013 | The interactive map provides visual data on the historic locations of aggregate sites and sand gravel resources. |
| Offshore oil and gas activity data (NSTA, 2025) | 2024 | Spatial information on gas and oil infrastructure (gas and oil wells, fields, pipelines, and licence blocks). |
| Offshore wind lease areas (Crown Estate Scotland, CES, 2025a) | 2025 | Represents all current offshore wind farm sites in pre- planning, planning, construction, and operational phases in Scottish waters. |
| Innovation and Targeted Oil and Gas (INTOG) application areas (CES, 2025b) | 2024 | Represents the successful application areas of the INTOG leasing round. |
| Wave lease sites and suitable areas for development (Marine Scotland NMPi, 2024a) | 2024 | Spatial information on wave lease sites granted by CES and areas identified as suitable for development under the Sectoral Marine Plan. |
| Tidal lease sites and suitable areas for development (Marine Scotland NMPi, 2024b) | 2024 | Spatial information on tidal lease sites granted by CES and areas identified as suitable for development under the Sectoral Marine Plan. |
| Subsea cables (Marine Scotland NMPi, 2024c) | 2024 | Locations of marine telecommunications and power cables. |

14.5.2.1 Site-specific Surveys

28. No site-specific surveys have been undertaken for the marine infrastructure and other users assessment. Information from **Chapter 12: Shipping and Navigation (Volume II)**, including results from the summer 2024 vessel traffic surveys are considered in this assessment, where appropriate.

14.5.2.2 Assumptions and Limitations

29. This Marine Infrastructure and other users Chapter has captured all relevant, available and up-to-date data publicly available and is detailed in **Table 14.7**. The characterisation of the existing environment and the resulting impact assessment is based on stakeholder consultation, publicly available information, purchased data or information gained directly from relevant companies/organisations. There may be elements of uncertainty associated with the locations of some existing infrastructure, and this will be discussed with the operators/developers during post consent discussions and/or will be established during pre-construction surveys where necessary. It is considered that the data applied in the assessment is sufficiently detailed to inform a robust assessment of the presented effects.

14.6 Existing Environment

30. The existing baseline environment for marine infrastructure and other users considers the other offshore infrastructure and activities found within the marine infrastructure and other users study area. Some receptors have been scoped out of further assessment, as these are not identified within the marine infrastructure and other users study area or in the scoping representations received on the Bellrock WFDA Scoping Report. In line with the Bellrock WFDA Scoping Opinion (**Appendix 1.2 (Volume IV)**), the following receptors have been scoped out of the Bellrock WFDA EIA Report:

- Carbon Capture and Storage;
- MOD practice and exercise areas (PEXAs) related to maritime activities and maritime navigational interests (highly surveyed areas);
- Dredging and disposal sites;
- Marine aggregates and mining;
- Wave and tidal projects; and
- Aquaculture.

31. The following receptors are scoped into the assessment and are detailed below:

- Offshore wind farms and associated transmission infrastructure (**Section 14.6.1**);
- Oil and gas (**Section 14.6.2**); and
- Subsea cables (utilities)¹ (**Section 14.6.3**).

¹ Considered and scoped out, as described in **Section 14.6.3** and **Section 14.7.1**.

14.6.1 Offshore Wind Farms

32. Scottish waters, in particular the North Sea, are a focus of significant activity for offshore wind development. There are a number of offshore wind projects which are operational or in early stage of developments which are situated off the Aberdeenshire coast, in proximity to the Bellrock WFDA.
33. **Chapter 2: Policy and Legislative Context (Volume II)** details the legislative and policy drivers behind Scotland's strategy to reduce carbon dioxide (CO₂) emissions, including the key role that offshore wind plays in decarbonisation and in Scotland's net zero commitment. Following early leasing rounds in 2009 and 2012, the Scottish Government published the SMP-OWE in October 2020 facilitating the ScotWind leasing round, managed by CES. In 2022, the ScotWind leasing round announced 20 successful developer application bids for sites for the development of new offshore wind projects, including the Bellrock Project, located within SMP-OWE Plan Option area E1. This was quickly followed by the Innovation and Targeted Oil and Gas (INTOG) leasing round where, in 2023, 12 developers were awarded Exclusivity Agreements for wind farm sites to support development of innovative projects and help decarbonise the oil and gas industry. Both ScotWind and INTOG leasing rounds have a particular focus in the Scottish North Sea. In May 2025, a draft update of the SMP-OWE was released for consultation (Scottish Government, 2025), incorporating the latest scientific evidence to highlight both the opportunities and limitations of offshore wind development in Scottish waters.
34. **Figure 14.2 in Volume III** shows the proposed and operational offshore wind farm developments around the Bellrock WFDA. There are no consented or existing offshore wind farms within the marine infrastructure and other users study area. The only proposed offshore wind farm within the marine infrastructure and other users study area is the Ossian Offshore Wind Farm (hereafter 'Ossian'), located approximately 8.7 km southwest of the Bellrock WFDA and located further west, closer to the Aberdeenshire coastline.
35. The Ossian project is a joint venture by Scottish and Southern Energy (SSE) Renewables, Marubeni Corporation, and Copenhagen Infrastructure Partners. Located approximately 84 km off the east coast of Scotland and spanning an area of 858 km², Ossian proposes to use floating technology with a potential export capacity of 3.6 Gigawatt (GW), making it one of the largest proposed wind farm developments in Scottish waters. Ossian will connect to the National Electricity Transmission System in Lincolnshire, England, and a substation in Angus, Scotland (the latter confirmed in September 2025). The application for the Ossian Array was submitted to the Scottish Government in June 2024, with an application for the associated transmission infrastructure to follow (a Scoping Report for the Ossian Offshore Transmission Infrastructure was published in February 2025, with a Scoping Opinion from MD-LOT received in May 2025). The Ossian Array is expected to construct between 2031 and 2038.
36. The Cenos Offshore Wind Farm, which is expected to construct between 2030 and 2035, is located 61.3 km further offshore than the Bellrock WFDA. Vessels associated with this development may intend to pass through or close to the Bellrock WFDA. Cedar Offshore Wind Farm is located 21.5 km further offshore than Bellrock however no details on the construction programme are available as the development is in early planning. There is adequate sea room around all other offshore wind farm projects, enabling vessels and helicopters accessing the Bellrock WFDA to be able to alter their route or transit past installation activities and associated safety zones of other offshore wind farms. Likewise, vessels and helicopters in transit to other wind farms further offshore from Bellrock

(for example, the proposed Cedar or Cenos projects) will have ample space to manoeuvre around any safety zones associated with the Bellrock WFDA. As third-party vessels will be aware of the Bellrock WFDA construction activities and operational footprint, it is expected that they will be able to plan and re-route with minimal interference to access and limited disruption to activities/operations. Furthermore, ample sea space exists surrounding the Bellrock WFDA which can be utilised with early course alterations and passage planning (see **Chapter 12: Shipping and Navigation (Volume II)**). The Applicant has reached out to the central North Sea helicopter operators to determine whether the presence of the Bellrock Wind Farm Infrastructure may necessitate any mitigation (see **Chapter 13: Aviation and Radar (Volume II)** for further details). The final layout of WTGs will take into account any such mitigation requirements and will also ensure the compatibility with possible Search and Rescue (SAR) helicopter operations within the Bellrock WFDA.

37. A list of operational and proposed offshore wind farms located within 50 nm of the Bellrock WFDA are provided in **Table 14.8**.
38. At the time of writing, no transmission infrastructure associated with future offshore wind farms was located within the Bellrock WFDA or the marine infrastructure and other users study area.
39. Therefore, the Ossian Array is the only offshore wind farm project considered in the assessment provided in **Section 14.8**.

Table 14.8: Proposed Offshore Wind Farms and any Associated Transmission Infrastructure Within 50 nm (92.6 km) of the Bellrock WFDA

| Name | Phase | Seabed Leasing Round | Distance from Bellrock WFDA (Boundary to Boundary) |
|-------------|--|--|---|
| Ossian | Array consent application submitted. Transmission Scoping Request submitted in February 2025. | ScotWind | Array: 4.7 nm (8.7 km) Transmission: 16 nm (29.6 km) |
| Cedar | Pre-scoping | INTOG | Array 11.6 nm (21.5 km) |
| CampionWind | Scoped* | ScotWind | Array 12.8 nm (23.7 km) |
| Morven | Scoped | ScotWind | Array 18.9 nm (35.0 km) |
| Muir Mhòr | Consent application submitted | ScotWind | Array 28.3 nm (52.4 km) |
| Cenos | Consent application submitted | INTOG | Array 33.1 nm (61.3 km) |
| Bowdun | Scoped | ScotWind | Array 33.6 nm (62.2 km) |
| Aspen | Consent application submitted | INTOG | Array 44 nm (81.5 km) |
| Seagreen | Operational | The Crown Estate's 3 rd Offshore Wind Leasing Round | Array 46 nm (85.2 km) |

| Name | Phase | Seabed Leasing Round | Distance from Bellrock WFDA (Boundary to Boundary) |
|---|-------------|--|--|
| Berwick Bank | Consented | The Crown Estate's 3 rd Offshore Wind Leasing Round | Array 46.4 nm (88.9 km) |
| Flora | Pre-scoping | INTOG | Array 47.6 nm (85.9 km) |
| <p>* Although CampionWind has undertaken Scoping phase, the lease has been returned to CES. MD-LOT has confirmed (see Table 14.2) that CampionWind should still be considered in this Bellrock WFDA EIA Report. (Shell Confirms MarramWind Project Exit, Return of 2 GW Floating Wind Site to Crown Estate Scotland Offshore Wind)</p> | | | |

14.6.2 Oil and Gas Infrastructure

40. Oil and gas operations within UK territorial waters are managed through the awarding of licence blocks that enable licensees to explore areas of seabed, predominantly in the North Sea. These licences are distributed through the Petroleum Act 1998, which is overseen by the North Sea Transition Authority (NSTA). Potential oil and gas licensees have the opportunity to bid in licensing rounds which are managed by the NSTA.
41. There are five licensed blocks which overlap with the Bellrock WFDA, with four licenced to NSNR (blocks 28/1a, 27/5a, 28/6a, and 27/10a) and one licensed to Orcadian Energy (block 28/2a) (**Figure 14.3** in **Volume III**). Within the wider marine infrastructure and other users study area, there are an additional 11 unlicensed blocks. See **Table 14.9** for details on licence blocks within the marine infrastructure and other users study area. Consultation with NSNR and Orcadian Energy is detailed in **Table 14.2**.

Table 14.9: Oil and Gas Licence Blocks within the Marine Infrastructure and Other Users Study Area

| Licence Block Number | UK Offshore Licensing Round | Licence Reference | Licence Holder | Licence Block Start Date | Licence Block Finish Date |
|--|-----------------------------|-------------------|-------------------------------------|--------------------------|---------------------------|
| Overlap with Bellrock WFDA | | | | | |
| 27/5a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 27/10a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 28/1a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 28/6a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 28/2a | 31 st | P2482 | Orcadian Energy (CNS) Limited | 15/07/2019 | 14/07/2051 |
| Overlap with Wider Marine Infrastructure and Other Users Study Area | | | | | |
| 27/3a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 27/4a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 20/28 | 33 rd | P2639 | North Sea Natural Resources Limited | 01/03/2024 | 29/01/2052 |
| 20/29 | 33 rd | P2639 | North Sea Natural Resources Limited | 01/03/2024 | 29/01/2052 |
| 20/30a | 33 rd | P2639 | North Sea Natural Resources Limited | 01/03/2024 | 29/01/2052 |
| 21/26a | 33 rd | P2639 | North Sea Natural Resources Limited | 01/03/2024 | 29/01/2052 |
| 21/27a | 28 th | P2244 | Orcadian Energy (CNS) Limited | 01/12/2014 | 30/11/2040 |
| 28/3a | 31 st | P2482 | Orcadian Energy (CNS) Limited | 15/07/2019 | 14/07/2051 |
| 279a | 29 th | P2321 | North Sea Natural Resources Limited | 15/05/2017 | 14/05/2047 |
| 28/9a | 24 th | P1430 | Harbour Energy plc | 01/04/2007 | 31/03/2033 |
| 28/9f | 32 nd | P2550 | Harbour Energy plc | 01/12/2020 | 30/11/2042 |

42. There are no oil or gas fields located within the Bellrock WFDA (see **Figure 14.3 in Volume III**), and there is no overlap with any existing or decommissioned oil and gas infrastructure. There are seven decommissioned (Abandoned Phase 3) appraisal wells located within the 10 nm marine infrastructure and other users study area (see **Table 14.10** and **Figure 14.3 in Volume III**). The closest is approximately 1 km north of the Bellrock WFDA (well registration number 27/05-1).

Table 14.10: Decommissioned Appraisal Wells within the Marine Infrastructure and Other Users Study Area

| Decommissioned Appraisal Well Registration Number | Owner | Distance of Decommissioned Well from Bellrock WFDA |
|---|---|--|
| 27/05-1 | North Sea Natural Resources Limited | 1 km |
| 28/02-1 | Atlantic Richfield Company (ARCO) British Limited | 7.4 km |
| 27/10-1 | Amoco U.K. Petroleum Limited | 7.4 km |
| 28/03-1B | Enquest plc | 12.2 km |
| 21/28b-7 | Hess Limited | 18 km |
| 28/02a-2 | Spirit Energy North Sea Oil Limited | 5.6 km |
| 21/27-4 | Spirit Energy North Sea Oil Limited | 18 km |

43. The infrastructure and associated activities for the Bellrock WFDA will not interact with these well locations and therefore no potential impacts are anticipated to occur on them. The Applicant will however consult with the owners of these wells prior to commencement of construction.
44. The Catcher development, owned by Harbour Energy, is located approximately 19.5 km east of the Bellrock WFDA, which includes three producing fields known as Varadero, Burgman and the Catcher. The nearest pipeline is part of the Catcher development and is 23 km east of the Bellrock WFDA and the closest Attention to Mariners notice to the Bellrock WFDA is the Bergesen Worldwide (BW) Catcher Floating Production, Storage and Offloading situated to the east at 13.2 nm. Ample sea space exists surrounding the Bellrock WFDA which can be utilised by associated vessels with early course alterations and passage planning (See **Chapter 12: Shipping and Navigation (Volume II)**). It is expected that they will be able to plan and re-route with minimal interference to access and limited disruption to activities/operations and is therefore not considered further. The Applicant has reached out to the central North Sea helicopter operators to determine whether the presence of the Bellrock Wind Farm Infrastructure may necessitate any mitigation. Initial feedback indicates that appropriate charting and lighting should address any concerns with respect to the Bellrock Wind Farm Infrastructure in isolation although a low-level transit route would be desirable (this reflects Maritime and Coastguard Agency (MCA) Emergency Response Cooperation Plan (ERCoP) requirements). See **Chapter 13: Aviation and Radar (Volume II)** for further details. The final layout of WTGs will take into account any such mitigation requirements and will also ensure the compatibility with possible SAR helicopter operations within the Bellrock WFDA.

14.6.3 Subsea Cables (Utilities)

45. The closest existing subsea cable to the Bellrock WFDA is 25 nm to the east and is the North Sea Link interconnector between the UK and Norway. The next closest subsea cables to the Bellrock WFDA are the EGL2 (63 km) (Marine Licence granted May 2023) and proposed EGL3 (30 km) (Marine Licence application submitted in September 2025) and EGL5 (early stage development) projects, under development by SSEN Transmission, all located outside the marine infrastructure and other users study area. See **Figure 14.4 in Volume III**.
46. No other subsea cables are located within the marine infrastructure and other users study area. Other subsea cables in the vicinity of the Bellrock WFDA are the operational North Sea Link telecommunications cable, located approximately 50 km to the southeast, which travels from Blyth in England to Kvittdal in Norway. To the north of the Bellrock WFDA, is the operational Tampnet superfast subsea fibre optic network cable, located approximately 87 km from the Bellrock WFDA at the closest point, which extends from just south of Peterhead across the North Sea, joining a network of other Tampnet cables.

14.6.4 Predicted Future Baseline

47. The oil and gas industry has been vital to Scotland and was responsible for nearly 90% of the country's primary energy in 2015 (Scottish Government, 2017). Although this sector continues to play a significant role in Scotland's economy, there has been a noticeable decline due to the shift towards renewable energy and net zero targets, with primary oil productions falling 30.7 million tonnes in 2024 (down by 9.1 %), which is the lowest level since North Sea production was established in the 1970s (Scottish Government, 2025). Oil and gas are expected to remain an important component of the energy security solution as the Scottish Government transitions towards net zero emissions by 2045 (Scottish Government, 2023). However, there has been a major shift towards more utilisation of renewable sources of energy, with a record of 38.4 TWh of renewable electricity generated in Scotland in 2024. This was a 13.2% increase from the 33.9 TWh generated in 2023 and an 8.4% increase on the previous high of 35.5 TWh generated in 2022 (Scottish Government, 2025).
48. Scotland is considered to have the most abundant natural wind resource in Europe with around 25% of the continent's wind resource (Scottish Government, 2023). The deployment of offshore wind in Scotland is set to continue and contribute towards the UK target of achieving up to 50 Gigawatt (GW) of offshore wind in the UK by 2030 (see **Chapter 2: Policy and Legislative Context (Volume II)** for further details), including up to 5 GW from floating offshore wind, which will support targets of the North Sea Transition Deal, which seeks to support the oil and gas industry in the transition to a low carbon future, including through platform electrification and offshore wind. With a majority of the ScotWind and INTOG leasing development sites situated within the North Sea, the offshore wind industry in the North Sea is likely to significantly increase in the next 10 to 20 years.
49. Several offshore wind farms are proposed off the east coast of Scotland within 50 nm of the Bellrock WFDA (as set out in **Section 14.6.1**). Though only Berwick Bank is currently consented, the projects are expected to, if consented, start construction in the late 2020s and early to mid-2030s. The closest proposed offshore wind farm spatially to the Bellrock WFDA is Ossian, which is expected to begin construction in 2031 if consented (Ossian Offshore Wind Farm Limited, 2024).

50. Development of the offshore wind industry in Scotland will be supported by Scottish Government development plans such as 'Scotland's National Marine Plan' (Scottish Government, 2015) and the draft updated SMP-OWE (Scottish Government, 2025), the Initial Plan Framework Sectoral Marine Plan for Offshore Wind for INTOG (Scottish Government 2022) and the INTOG Sectoral Marine Plan (in progress). Future offshore wind projects which have details in the public domain are included within the baseline discussed in **Section 14.6.1**.

14.7 Potential Impacts

14.7.1 Scope

51. **Table 14.11** sets out the impacts that have been scoped in to and out of the Bellrock WFDA EIA Report, in line with the Scoping Opinion (**Appendix 1.2: Bellrock WFDA Scoping Opinion in Volume IV**).
52. SSEN Transmission requested in the **Bellrock WFDA Scoping Opinion (Appendix 1.2 (Volume IV))** that SSEN Transmission projects were considered. EGL2 and EGL3 are presented in **Section 14.6.3**. Consultation has taken place with EGL2, EGL3 and EGL5 (see **Table 14.2**). Furthermore, since EGL2 and EGL3 (and EGL5) are located outside the marine infrastructure and other users study area, and no other subsea cables are present, impacts on subsea cables are scoped out from further assessment for the Bellrock WFDA. EGL2, EGL3 and EGL5 will be considered in the Bellrock OFTDA EIA Report in due course.

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Table 14.11: Potential Impacts Scoped In and Out of the EIA for Marine Infrastructure and Other Users

| Potential Impact | Construction | Operation and Maintenance | Decommissioning |
|--|---|---------------------------|-----------------|
| | Advised within the Bellrock WFDA Scoping Opinion | | |
| Impacts on other offshore wind farms | ✓ | ✓ | ✓ |
| Impacts on offshore oil and gas operations | ✓ | ✓ | ✓ |
| Impacts on carbon capture and storage sites | x | x | x |
| Impacts on subsea cables (utilities) | x | x | x |
| Impacts on dredging and disposal sites | x | x | x |
| Impacts on marine aggregate sites | x | x | x |
| Impacts on MOD maritime navigational interests | x | x | x |
| Transboundary impacts | x | x | x |

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14.7.2 Realistic Worst-Case Scenario

53. The final design of the Bellrock Wind Farm Infrastructure will be confirmed during detailed engineering studies post-consent. In order to undertake a robust and precautionary impact assessment, the realistic worst-case design scenario has been defined. Realistic worst-case scenarios (i.e. those that have potential to cause the greatest impact) are derived from the Project Design Envelope to ensure that all other design scenarios would have equal or less impact. Please see **Chapter 5: EIA Methodology (Volume II)** for further details on the design envelope approach.

54. The realistic worst-case scenario for the marine infrastructure and other users assessment is summarised in **Table 14.12** below and based on the project design as described in **Chapter 4: Project Description (Volume II)**.

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Table 14.12: Realistic Worst-case Scenario for Impacts on Marine Infrastructure and Other Users

| Impact | Realistic Worst-case Scenario | Rationale |
|---|---|---|
| <p>C1: Impacts on other offshore wind farms and/or disruption to associated activities</p> <p>C2: Impacts on offshore oil and gas operations and/or disruption to associated activities</p> | <p>Indicative construction phase of seven years (2031 to 2037), in addition to one year of site preparation works¹ (2030).</p> <p>Wind Farm Infrastructure footprint:</p> <p>Installation of:</p> <ul style="list-style-type: none"> ▪ Up to 132 FOU's built out to the maximum extent of the Bellrock WFDA (280 km²), with a minimum FOU spacing of 1,150 m (centre to centre); ▪ SKSs for each FOU, including mooring lines, anchoring systems and ancillary elements (including the pre-lay of mooring lines on the seabed); ▪ Scour protection for anchoring points; ▪ Approximately 300 km of IACs, comprising static and dynamic sections of IACs; ▪ Associated IAC, cable protection as required; ▪ Up to 18 subsea cable hubs; ▪ Two mooring buoys; and ▪ Two metocean buoys during construction. <p>Safety Zones:</p> <ul style="list-style-type: none"> ▪ Safety Zones for up to 500 m around each FOU during its construction; and ▪ Safety Zones for up to 50 m around each FOU when construction works have been completed but prior to commissioning, or where construction works are partially completed and a construction vessel is not present. <p>Vessel movements:</p> <ul style="list-style-type: none"> ▪ Maximum number of round trips² for construction vessels (inclusive of site preparation works): 1,615 ▪ Maximum number of vessels on site at one time during construction (inclusive of site preparation works): 34 ▪ Maximum number of helicopter round trips during construction: 816 | <p>The worst-case is based on the design envelope options that would result in the installation of the greatest amount of Wind Farm Infrastructure, the greatest number of vessels and the greatest extent of safety zones, over the longest construction period.</p> <p>This includes:</p> <ul style="list-style-type: none"> ▪ Installation of Wind Farm Infrastructure; ▪ Safety zones; and ▪ Construction vessel movements and anchoring. <p>Note that UXO clearance works will be subject to a separate Marine Licence (See Chapter 4: Project Description (Volume II)).</p> |

| Impact | Realistic Worst-case Scenario | Rationale |
|---|--|--|
| O&M | | |
| O1: Impacts on other offshore wind farms and/or disruption to associated activities | <p>Maximum extent of the Bellrock WFDA: 280 km²</p> <p>Operational lifetime: 35 years</p> <p>Infrastructure:</p> <ul style="list-style-type: none"> ▪ Up to 132 FOU's built out to the maximum extent of the Bellrock WFDA (280 km²), with a minimum FOU spacing of 1,150 m (centre to centre); ▪ SKSs for each FOU, including mooring lines, anchoring systems and ancillary elements; ▪ Scour protection for anchoring points; ▪ Approximately 300 km of IACs, comprising static and dynamic sections of IACs; ▪ Associated IAC, cable protection as required; ▪ Up to 18 subsea cable hubs; ▪ Two mooring buoys; and ▪ Two metocean buoys during construction. <p>Safety Zones:</p> <ul style="list-style-type: none"> ▪ Safety Zones for up to 500 m around each FOU during major maintenance during operation; ▪ Prior to commencement of decommissioning, Safety Zones for up to 500 m around each FOU during its decommissioning; and ▪ Consideration will also be given to an application for up to 500 m operational Safety Zones throughout the O&M phase, with any such application following the relevant application process and consultation requirements in place at the time. <p>Vessels</p> <ul style="list-style-type: none"> ▪ Maximum number of round trips for O&M vessels: 211 per year = 7,385 total trips during 35 year operational lifetime; ▪ Maximum number of vessels on site at one time during O&M: 21; | <p>The maximum amount of Wind Farm Infrastructure, the greatest number of vessels and the greatest extent of safety zones, over the operational period. This scenario represented the greatest potential disruption to infrastructure during operational and maintenance activities including:</p> <ul style="list-style-type: none"> ▪ The footprint of the operational Bellrock Wind Farm Infrastructure; ▪ Safety Zones; and ▪ Maintenance and repair vessel activity and anchoring. |
| O2: Impacts on offshore oil and gas operations and/or disruption to associated activities | | |

| Impact | Realistic Worst-case Scenario | Rationale |
|---|---|--|
| | <ul style="list-style-type: none"> ▪ Maximum number of helicopters round trips during O&M: 986 per year = 34,510 total trips during 35 year operational lifetime; and ▪ Jack-up vessels: 132 positions across the operational lifetime of the Bellrock WFDA. | |
| Decommissioning | | |
| D1: Impacts on other offshore wind farms and/or disruption to associated activities | <p>The sequence of decommissioning is likely to be the reverse of the construction sequence, taking around seven years, with similar types and numbers of vessels and equipment expected to be involved.</p> <p>It is expected that the Bellrock Wind Farm Infrastructure will be fully removed at the end of its operational life.</p> <p>The removal and dismantling of the FOU's will largely be a reversal of the installation process. Generally, the FOU's will be towed from the Bellrock WFDA to a suitable port for decommissioning.</p> | <p>The detail and scope of the decommissioning works would be determined by the relevant legislation and guidance at the time.</p> |
| D2: Impacts on offshore oil and gas operations and/or disruption to associated activities | <p>Mooring lines and anchors will be recovered and removed from the WFDA. For FOU driven pile anchors, these are expected to be either fully removed or cut off below seabed level with a proportion remaining in-situ (due to anticipated excessive cost in their complete removal) following good practice and consideration of environmental conditions and sensitivities.</p> <p>Subsea cable hubs are expected to be fully removed from the seabed.</p> <p>The dynamic sections of the IACs within the water column will be cut at the connector with the static IAC and fully removed. The approach for decommissioning the static IACs on the seabed is yet to be determined, however, this will be reviewed throughout the lifetime of the Bellrock WFDA and good practice guidance at time of decommissioning will be followed.</p> <p>Subject to the material used and environmental sensitivities, it may be preferable to leave scour protection in-situ to preserve the marine habitat that may have developed over the life of the Bellrock WFDA. The approach for decommissioning cable protection will be similar to scour protection. Relevant stakeholders and regulators will be consulted to establish the best approach. Good practice guidance at time of decommissioning will be followed.</p> | <p>For the purposes of the worst-case scenario, it is anticipated that the impacts would be comparable to those identified for the construction phase.</p> |
| <p>Notes:</p> <p>¹ Site preparation works will commence up to one year before commencement of construction (year 0), at which point they may continue albeit as construction works (rather than site preparation works) these activities have been considered in the assessments of this Chapter, for completeness.</p> <p>² One round trip comprises two movements (i.e. one to and one from the Bellrock WFDA).</p> | | |

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14.7.3 Embedded Mitigation Measures

55. This section outlines the embedded (primary and tertiary) mitigation relevant to the marine infrastructure and other users assessment (as shown in **Table 14.13** below). Where additional mitigation measures are proposed, these are detailed in the impact assessment (**Section 14.8**). **Appendix 5.1: Mitigation and Monitoring Register (Volume IV)** sets out all mitigation measures. The Applicant has made several commitments to avoid, prevent, reduce or, if possible, offset potential adverse environmental effects through mitigation measures embedded into the evolution of the design envelope. These embedded mitigation measures include actions that will be undertaken to meet other existing legislative requirements and those considered to be standard or best practice to manage commonly occurring environmental effects.
56. As part of the site selection and design process the Bellrock WFDA has identified and avoided existing marine infrastructure in the Bellrock WFDA, including other offshore wind farms and oil and gas infrastructure. This has required a combination of consultation, desk-based research and offshore surveys. This will reduce the potential of Bellrock WFDA's infrastructure interfering with existing marine infrastructure. Details of the site selection process are provided in **Chapter 3: Site Selection and Consideration of Alternatives (Volume II)** of this EIA Report.
57. Safety Zones will be applied for the Bellrock WFDA to align with relevant legislation (Energy Act 2004 and Electricity Regulations 2007) and the Department for Business, Energy and Industrial Strategy Guidance on Applying for Safety Zones (Department for Business, Energy and Industrial Strategy, 2011) to ensure that potential impacts associated with other offshore wind farms and oil and gas activities are mitigated. Safety Zones for construction, major O&M and decommissioning will be located around any structure where construction work is partially complete or underwater. Safety Zones are likely to include:
- Safety Zones for up to 500 m around each FOU during its construction;
 - Safety Zones for up to 50 m around each FOU when construction works have been completed but prior to commissioning, or where construction works are partially completed and a construction vessel is not present;
 - Safety Zones for up to 500 m around each FOU during major maintenance during operation;
 - Prior to commencement of decommissioning, Safety Zones for up to 500 m around each FOU during its decommissioning; and
 - Consideration will also be given to an application for up to 500 m operational Safety Zones throughout the O&M phase, with any such application following the relevant application process and consultation requirements in place at the time.
58. The Applicant will also ensure that there are appropriate communications to inform other marine users of the works and the notification of significant construction events which have the potential to temporarily restrict areas for safety purposes, as detailed in **Table 14.13**. Engagement with any other offshore operators or developers active within the marine infrastructure and other users study area, to facilitate coexistence by coordinating activities, will also be undertaken as appropriate. These measures are detailed in **Chapter 12: Shipping and Navigation (Volume II)** and will help ensure that there is marine coordination in the vicinity of the Bellrock WFDA.

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Table 14.13: Embedded Mitigation Measures Relevant to Marine Infrastructure and Other Users

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|--|-----------------|--|
| WFDA-9 | Development of, and adherence to, a Seabed Obstruction Mitigation Plan (SOMP). The SOMP will set out any potential risks to legitimate sea users and identify measures to reduce these risks. | Tertiary | Secured in the s.36 Consent and Marine Licence, via a condition requiring a SOMP to be developed and submitted to the Scottish Ministers for approval no later than three months after cable laying has been completed. |
| WFDA-14 | Development of and adherence to an Inter-array Cable Plan (IA-CaP). The IA-CaP will set out detailed IAC installation methods and techniques (based on final project design). The IA-CaP will confirm planned IAC routing, burial (if any), and any additional protection if required, and will set out methods for post-installation IAC monitoring. | Tertiary | Secured in the s.36 Consent and Marine Licence, via a condition requiring an IA-CaP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |
| WFDA-15 | A detailed CBRA will be prepared where IACs are proposed to be buried to determine the target burial depth. The burial depths may vary and will be dependent on risk and ground conditions. The CBRA will also highlight instances where adequate burial cannot be achieved, and alternative protection is needed. | Primary | Secured in the s.36 Consent and Marine Licence, via a condition requiring an IA-CaP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |
| WFDA-16 | Any damage, destruction, or decay of cables will be notified to MCA, Northern Lighthouse Board (NLB), Kingfisher, and the United Kingdom Hydrographic Office. | Tertiary | Secured in the s.36 Consent and Marine Licence. |
| WFDA-17 | Development of, and adherence to, a Vessel Management and Navigational Safety Plan (VMNSP). The VMNSP will describe measures put in place by the Applicant related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of activity at the Bellrock WFDA to other sea users (e.g. via Notice to Mariners with Kingfisher Bulletins or other appropriate methods). Where appropriate, guard vessels will be used to ensure adherence with Safety Zones or advisory passing distances. | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring a Vessel Management Plan (VMP) and Navigational Safety Plan (NSP) to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|---|-----------------|---|
| WFDA-19 | Development of and adherence to a Marine Pollution Contingency Plan (MPCP) outlining the approach for managing and reducing risk of pollution and procedures to protect personnel and to be followed in the event of a pollution incident. | Tertiary | Secured in the s.36 Consent and Marine Licence, via a condition requiring a MPCP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. A MPCP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |
| WFDA-20 | During the construction and O&M of the Wind Farm Infrastructure, periodic geophysical surveys would be required to ensure the IACs remain buried and if they do become exposed, remedial works will be undertaken. | Primary | Secured in the s.36 Consent and Marine Licence, via a condition requiring an IA-CaP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |
| WFDA-21 | An Environmental Management Plan (EMP) will be prepared and implemented to set out the procedures to avoid, reduce, and manage potential environmental effects arising across the construction and O&M of the Bellrock Wind Farm Infrastructure, in accordance with relevant international and national legislation and guidance. | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring an EMP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. An Outline EMP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |
| WFDA-22 | Advance warning and accurate location details of construction, maintenance, and decommissioning activities, associated Safety Zones, and advisory passing distances will be given via notifications to mariners and Kingfisher Bulletins. | Tertiary | Secured in the s.36 Consent and Marine Licence, via a condition requiring a VMP and NSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. An Outline VMNSP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|---|-----------------|--|
| WFDA-28 | Development of UXO Threat and Risk Assessment. All UXO detonations will be subject to a risk assessment undertaken in accordance with relevant guidance such as publication C754 Assessment and Management of UXO Risk in the Marine Environment (Construction Industry Research and Information Association, 2015). | Tertiary | A UXO Threat and Risk Assessment has been developed to support an indicative assessment of UXO clearance in the Bellrock WFDA EIA Report and will inform separate Marine Licence application(s) for UXO clearance. |
| WFDA-34 | <p>Adherence to the following international and national regulations and guidance, namely:</p> <ul style="list-style-type: none"> ▪ International Convention for the Prevention of Pollution from Ships (MARPOL), which sets out requirements, including appropriate vessel maintenance; ▪ The International Convention for the Control and Management of Ships' Ballast Water and Sediments, which provides an international framework for the control of transfer of potentially invasive species from ballast water; and ▪ Consideration of guidance from the International Maritime Organisation (IMO, 2023) on the control and management of ships' biofouling to minimise the transfer of invasive aquatic species. | Tertiary | <p>Secured in the s.36 Consent and Marine Licence via a condition requiring a VMNSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline VMNSP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |
| WFDA-36 | <p>An application will be made post-consent for Safety Zones including:</p> <ul style="list-style-type: none"> ▪ An application for Safety Zones for up to 500 m around each FOU¹ during its construction; ▪ An application for Safety Zones for up to 50 m around each FOU when construction works have been completed but prior to commissioning, or where construction works are partially completed and a construction vessel is not present; ▪ An application for Safety Zones for up to 500 m around each FOU during major maintenance during operation; ▪ An application (prior to commencement of decommissioning) for Safety Zones for 500 m around each FOU during its decommissioning; and ▪ Consideration will also be given to an application for up to 500 m operational Safety Zones throughout the O&M phase. | Primary | <p>Safety Zones will be applied for under Section 95 of the Energy Act 2004 and the Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007 before commencement of construction and where required, during construction and periods of major maintenance.</p> <p>Secured in the s.36 Consent and Marine Licence, via a condition requiring a VMP and NSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline VMNSP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|---|-----------------|--|
| WFDA-37 | <p>Where appropriate, guard vessels (or other suitable methods) will be used to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, O&M and decommissioning phases.</p> | Tertiary | <p>Secured in the s.36 Consent and Marine Licence, via a condition requiring a VMP and NSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline VMNSP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |
| WFDA-38 | <p>Development of and adherence to a Development Specification and Layout Plan (DSLPL). A DSLPL will be developed post-consent to finalise the Bellrock WFDA layout in consultation with the MCA and NLB in accordance with s.36 and Marine Licence requirements.</p> <p>Specifically in relation to climate change risk, the assessment accounts for the technical requirements of the Wind Farm Infrastructure, design specifications and operational strategy which are built upon best practice engineering codes and standards in the offshore wind sector, and standard H&S procedures outlined in relevant management plans.</p> <p>Where likely significant effects are predicted, additional mitigation will be identified from available literature sources and in collaboration with the engineering team to ensure the Wind Farm Infrastructure is resilient to impacts arising from current extreme weather events and climatic conditions. Accounting for uncertainties in longer-term climate change projections and their implications for the Bellrock Wind Farm Infrastructure, adaptive management measures will also be reviewed in line with Institute of Sustainability and Environmental Professionals (ISEP) guidance (2020) to ensure mitigation is implemented where and when appropriate.</p> <p>The DSLPL will ensure that climate change resilience is built into the design from the outset to mitigate the risk of climate change impacts on the conditions and performance of the Wind Farm Infrastructure during the operational lifetime.</p> | Tertiary | <p>Secured in the s.36 Consent and Marine Licence, via a condition requiring a DSLPL to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> |
| WFDA-39 | <p>All relevant Wind Farm Infrastructure¹ will be appropriately marked on all physical and electronic nautical charts as distributed by the United Kingdom Hydrographic Office.</p> | Tertiary | <p>Secured in the DSLPL to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|---|-----------------|--|
| WFDA-40 | <p>Development of, and adherence to, a Lighting and Marking Plan (LMP). The LMP will confirm compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.</p> <p>Failures of the lighting and marking within the Bellrock WFDA will be appropriately reported and rectified as soon as practicable. Interim hazard warnings will be put in place as required.</p> | Tertiary | <p>Secured in the s.36 Consent and Marine Licence, via a condition requiring a LMP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline LMP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |
| WFDA-41 | <p>Any dropped objects during works associated with the Bellrock WFDA will be reported in line with MD-LOT's guidance on the 'accidental deposit of an object at sea' (Marine Directorate, 2024) and objects will be recovered where they pose a hazard to other marine users and where recovery is practicable.</p> | Tertiary | <p>Secured in the s.36 Consent and Marine Licence via a condition an EMP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline EMP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence Application for the Bellrock Wind Farm Infrastructure.</p> |
| WFDA-42 | <p>Development of, and adherence to, an ERCoP.</p> <p>The ERCoP will detail protocols that will be undertaken in the event of an emergency, including occupational health and safety (H&S), and set out clear roles and responsibilities, emergency contacts and reporting and escalation pathways. Protocols for extreme weather events will also be included.</p> <p>The ERCoP will mitigate the risk of climate change impacts on construction site personnel, plant and equipment and other assets and the risk of delays to the construction programme due to extreme weather events, which are becoming more frequent and intense due to climate change.</p> <p>The ERCoP will ensure the implementation of response protocols in the event of emergencies for offshore activities.</p> | Tertiary | <p>Submitted to the Scottish Ministers for approval via the VMNSP, which will address all the recommendations of the Maritime and Coastguard Agency (MCA) in Marine Guidance Note 654 (MCA, 2021).</p> <p>An Outline VMNSP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|---|-----------------|--|
| WFDA-43 | The Applicant will ensure compliance with the Regulatory Expectations on Moorings for Floating Wind and Marine Devices (MCA and Health and Safety Executive, 2017). | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring a NSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. An Outline VMNSP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |
| WFDA-44 | Marine coordination will be implemented to manage project vessels throughout construction, O&M and decommissioning periods, including in liaison with relevant ports and harbours. | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring a VMP and NSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. An Outline VMNSP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |
| WFDA-45 | Project vessels will ensure compliance with international marine regulations as adopted by the Flag State, including the Convention on the International Regulations for Preventing Collisions at Sea (COLREGs) and the International Convention for the Safety of Life at Sea (SOLAS), thereby reducing the risk of navigational incidents, including vessel collisions, and associated risks to other sea users and the marine environment. | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring a VMP, to be developed and submitted to the Scottish Ministers for approval before commencement of construction. An Outline VMNSP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |
| WFDA-46 | The Applicant will ensure compliance with Marine Guidance Note 654 and its annexes, where applicable, including the completion post-consent of an ERCoP and a search and rescue checklist in consultation with the MCA. The ERCoP will ensure the implementation of response protocols in the event of emergencies for offshore activities. | Tertiary | Submitted to the Scottish Ministers for approval via the VMNSP, which will address all the recommendations of the Maritime and Coastguard Agency (MCA) in Marine Guidance Note 654 (MCA, 2021). |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|---|-----------------|---|
| | | | An Outline VMNSP (Volume V) is submitted alongside the s.36 Consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure. |
| WFDA-47 | <p>Development of, and adherence to, a Decommissioning Programme (DP).</p> <p>The DP will set out the framework for the safe, orderly, and environmentally acceptable decommissioning and removal of the Bellrock Wind Farm Infrastructure, in the interests of safety and environmental protection.</p> <p>Climate change risk measures will be included in the DP to be developed prior to the commencement of construction and will include a review of site-specific weather and metocean conditions, recent extreme weather events and up-to-date climate change projection data will be undertaken to ensure risk assessments, H&S protocols and guidelines on safe working practices are suitable for future climate conditions at the time of decommissioning works. The DP will be refreshed prior to decommissioning activities commencing.</p> <p>The DP will mitigate the risk of climate change impacts on decommissioning site personnel, plant and equipment and other assets and the risk of delays to the decommissioning programme due to extreme weather events, which are becoming more frequent and intense due to climate change.</p> | Tertiary | Secured in the s.36 Consent and Marine Licence, via a condition requiring a DP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |
| WFDA-49 | Appropriate marking of the Bellrock WFDA on aeronautical charts. This will include provision of the positions and heights of structures to Civil Aviation Authority, Ministry of Defence, and Defence Geographics Centre. | Tertiary | Secured in the s.36 Consent and Marine Licence, via a condition requiring a LMP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |
| WFDA-50 | No more than two non-rotating FOU's will be towed together at once and will not exceed a velocity of 10 knots. | Primary | <p>Secured in the s.36 Consent and Marine Licence via a condition requiring a VMP and NSP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline VMNSP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|------------|--|-----------------|---|
| WFDA-51 | Lights, marks, sounds, signals, and other aids to navigation will be exhibited as required by NLB, MCA, and the Civil Aviation Authority including the buoyed construction/decommissioning areas. | Tertiary | <p>Secured in the s.36 Consent and Marine Licence via a condition requiring a LMP to be developed and submitted to the Scottish Ministers for approval before commencement of construction.</p> <p>An Outline LMP (Volume V) is submitted alongside the s.36 consent application and Marine Licence application for the Bellrock Wind Farm Infrastructure.</p> |
| WFDA-52 | The layout of the WTGs ¹ in the Bellrock WFDA, will be finalised in discussion with the MCA and NLB to ensure the specific layout is compatible with potential search and rescue activity. | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring a DSLP to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |
| WFDA-60 | <p>Development of, and adherence to, a CMS.</p> <p>The CMS will describe the methods for construction for all consented Wind Farm Infrastructure and set out the measures to be implemented to avoid or reduce adverse effects on the environment and legitimate users of the sea during the construction phase. This will include a clear definition of roles and responsibilities and reference to relevant H&S protocols.</p> <p>In relation to climate change, the CMS will incorporate measures to ensure construction activities are resilient to current and projected extreme weather and metocean conditions. This will include, as appropriate:</p> <ul style="list-style-type: none"> ▪ Monitoring of site-specific weather and metocean conditions, including use of recognised forecasting and severe weather alert services; ▪ Programming and phasing of construction activities with regard to seasonality and short-to medium-term forecasts; ▪ Definition of safe working limits for vessel, lifting, and installation operations and procedures for suspension of works where thresholds are exceeded; ▪ Measures to secure plant, equipment, and materials during adverse weather; and ▪ Risk assessments and safety procedures that account for site-specific extreme weather risks. | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring a CMS to be developed and submitted to the Scottish Ministers for approval before commencement of construction. |

| Measure ID | Embedded Mitigation Measure(s) | Mitigation Type | Means of Implementation |
|---|---|-----------------|---|
| | <p>Through these measures, the CMS will mitigate risks to construction personnel, plant, and equipment, and reduce the potential for programme disruptions arising from extreme weather events.</p> | | |
| WFDA-61 | <p>Regular and periodic inspections and maintenance of all components of the Wind Farm Infrastructure will be undertaken over their operational lifetime to identify and remediate any damage and deterioration and maintain good working conditions. These will be included in the Operation and Maintenance Plan (OMP).</p> <p>Monitoring of site-specific weather and metocean conditions, recent extreme weather events and up-to-date climate change projection data will be undertaken to provide a dynamic risk assessment of climate change impacts and inform operation and maintenance planning.</p> <p>The OMP will mitigate the risks of climate change impacts on the conditions and performance of the Wind Farm Infrastructure and ensures that it is adaptable to future climate conditions and remains resilient over its operational life. The O&M strategy will be adaptive, with the frequency of maintenance, repair and replacement activities being adjusted based on need (i.e. increasing planned O&M visits for components with higher deterioration rates than anticipated).</p> | Tertiary | Secured in the s.36 Consent and Marine Licence via a condition requiring an OMP to be developed and submitted to the Scottish Ministers for approval prior to the commissioning of the first WTG. |
| <p>Notes:</p> <p>¹ The embedded mitigation measures identified within the Navigational Risk Assessment have been developed with respect to the Bellrock Wind Farm Infrastructure and surface piercing Bellrock Offshore Transmission Infrastructure located within the Bellrock WFDA. Accordingly, the offshore substations, part of the Offshore Transmission Infrastructure, were considered within the Navigational Risk Assessment in relation to navigational hazards including vessel allision risk and emergency response access, on the basis that the assessed Bellrock WFDA layout encapsulates such infrastructure. However, the offshore substations do not form part of the Bellrock Wind Farm Infrastructure s.36 Consent and Marine Licence applications and will be consented separately under the Bellrock Offshore Transmission Infrastructure Marine Licence application. Mitigation and monitoring measures relevant to the offshore substations are therefore not included within this register and will be secured through the Bellrock Offshore Transmission Infrastructure consenting process.</p> | | | |

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14.8 Assessment of Effects

59. The potential effects to marine infrastructure and other users that may occur during construction, O&M and decommissioning of the Bellrock WFDA are assessed in the following sections. The assessment follows the methodology set out in **Section 14.4** and is based on the realistic worst-case scenarios defined in **Section 14.7.2**, with consideration of embedded mitigation measures identified in **Section 14.7.3**.
60. This section focuses on the impact on other infrastructure as a whole, considering disruption to their operation and activities. Navigational impacts to vessels associated with infrastructure and other marine users are generally considered in **Chapter 12: Shipping and Navigation (Volume II)** and impacts to aviation (including helicopters) generally are considered in **Chapter 13: Aviation and Radar (Volume II)**.

14.8.1 Potential Impacts During Construction

14.8.1.1 Impact C1: Impacts on Other Offshore Wind Farms and/or Disruption to Associated Activities

61. Depending on the construction port(s)/wet storage area(s) chosen to facilitate the Bellrock Project, movements of vessels and helicopters associated with the Bellrock WFDA during construction have the potential to temporarily interfere with the routine operations and activities of the Ossian Array.

14.8.1.1.1 Sensitivity

62. The only offshore wind farm identified within the marine infrastructure and other users study area is the proposed Ossian Array, located 8.7 km west of the Bellrock WFDA, closer to the Scottish coastline (see **Table 14.2** and **Figure 14.2** in **Volume III**).
63. The offshore renewable energy industry is considered to be of national economic importance and disruption to infrastructure or activities associated with construction or operation of offshore wind farms has potential to affect the national economy, socioeconomics or energy security. Other offshore wind farms are deemed to be of high value, however, it is anticipated that other vessel operators will be able to alter their route or transit past installation activities and associated safety zones and advisory safe passing distances, given the adequate sea room around the Bellrock WFDA. Similarly, vessels associated with Bellrock will also alter course to avoid other array areas or safety zones where necessary, which will be communicated by other projects. Adaptability and recoverability of other offshore wind farms to any impacts which may arise are considered to be moderate to high. Therefore, the sensitivity of the Ossian Array if under construction or operational, is considered to be **high** for the construction phase of the Bellrock WFDA.

14.8.1.1.2 Magnitude of Impact

64. Increased vessels/vessel movements transiting to/from Bellrock WFDA and the Scottish coastline during construction may temporarily impact or disrupt activities associated with the Ossian Array. Construction activities (see **Table 14.12**) for the Bellrock WFDA will include: site preparation works (e.g. surveys, seabed preparation, UXO clearance, debris clearance, and out of service

cable/pipeline removal), installation of Wind Farm Infrastructure (e.g. SKS, FOU, IACs, subsea cable hubs, cable and scour protection), and towing of FOU to site from wet storage location(s)/port(s)). Safety Zones are expected to be in place; up to 500 m around each FOU during its construction, and up to 50 m around each installed FOU during its pre-commissioning. The indicative construction phase for the Bellrock Wind Farm Infrastructure is expected to last for up to seven years (2031 to 2037), in addition to one year of site preparation works (2030).

65. The construction port(s) have not yet been selected by the Applicant and are yet not confirmed for other proposed offshore wind farms (**Table 14.8**) in the area. Construction programmes are also indicative at this stage for other proposed offshore wind farms, and there is potential for overlap of construction times between multiple projects. Assuming the Ossian Array secures consent and proceeds to construction, it is likely there will be overlap between the Ossian Array and Bellrock WFDA construction timelines, with the Ossian Array expecting to start construction in 2031 for approximately eight years until 2038. It is anticipated that vessels/helicopters associated with the Ossian Array would be transiting to/from the Ossian Array and a port on the Scottish coastline to the east of the Ossian Array, therefore they are not anticipated to have direct interaction with the Bellrock WFDA.
66. The Applicant will implement practices and procedures which would support the safe coexistence between the Wind Farm Infrastructure of the Bellrock WFDA with other projects and developments, including the Ossian Array. As described in **Table 14.13**, embedded mitigation would act to reduce or avoid potential risk of adverse effects to the operations of other wind farms resulting from the construction phase of the Bellrock WFDA. This includes the use of safety zones during construction and marine coordination, as well as issue of Notices to Mariners advising of planned activities, the use of appropriate lighting, marking and charting of relevant infrastructure/activity. A series of management plans will also be developed to protect other marine users (**Section 14.7.3**), including the NSP, VMP, DSLP ERCoP, IA-CaP and LMP and SAR checklist. In addition, ongoing engagement between the Applicant and Ossian or other relevant offshore wind farm developers and any nominated contractors will be undertaken, as appropriate, to facilitate coexistence for transiting vessels. Collaboration between renewables developers in the North Sea will also ensure good communication and coordination across the marine area. **Chapter 12: Shipping and Navigation (Volume II)** concludes that the activities associated with shipping and navigation will be managed and regulated to ensure safe operations in the central North Sea and the effects of all impacts are expected to be tolerable or broadly acceptable and therefore not significant. As discussed in **Chapter 13: Aviation and Radar (Volume II)**, the predicted helicopter movements during the construction phase will be managed by existing Air Traffic Services infrastructure provided in accordance with national procedures, and pilots for helicopters associated with any offshore wind farms will be expected to operate in accordance with regulatory requirements.
67. In consideration of these measures, any disruption to the Ossian Array during the construction phase will be temporary and highly localised, and therefore the magnitude of impact is considered to be **negligible**.

14.8.1.1.3 Significance of Effect

68. The sensitivity of the Ossian Array during construction of the Bellrock WFDA is considered to be **high**. The magnitude of the potential impact during construction is considered to be negligible and the effect will therefore be of **minor adverse** significance, which is **not** significant in EIA terms.

69. No additional mitigation is required to manage potential effects on the Ossian Array during construction.

14.8.1.2 Impact C2: Impacts on Offshore Oil and Gas Operations and/or Disruption to Associated Activities

70. Similar to Impact C1 above (**Section 14.8.1.1**), depending on the port(s)/wet storage area(s) chosen to facilitate the Bellrock WFDA, movements of vessels and helicopters associated with the Bellrock WFDA during construction have the potential to temporarily disrupt activities associated with or reduce access to active licence blocks subsea structures (such as wells). There is also potential for pre-construction or construction activities to obstruct exploration activities in overlapping licenced blocks (i.e. seismic surveys).

14.8.1.2.1 Sensitivity

71. As discussed in **Section 14.6.2** above, the WFDA overlaps with five licensed blocks, which belong to NSNR and Orcadian Energy.
72. The activities have the potential to restrict access to the six license blocks present that overlap the Bellrock WFDA due to the movement of vessels and installation of the Wind Farm Infrastructure. No pipelines or existing infrastructure is recorded in the Bellrock WFDA and therefore there will be no impacts to infrastructure from activities associated with the Bellrock WFDA.
73. The oil and gas industry is considered to be of national economic importance and disruption to infrastructure or activities associated with oil and gas facilities or infrastructure has potential to greatly disrupt operations to national economy, socioeconomics or energy security. Oil and gas facilities and associated activities are deemed to be of high value, and adaptability and recoverability of the oil and gas industry to any impacts which may arise are considered to be moderate to high. Therefore, the sensitivity of the oil and gas industry and associated activities is considered to be **high** for the construction phase of the Bellrock WFDA.

14.8.1.2.2 Magnitude of Impact

74. Increased vessels/vessel movements transiting to/from Bellrock WFDA and the Scottish coastline during construction may temporarily impact or disrupt activities associated with the oil and gas industry, particularly in the Bellrock WFDA which overlaps five licensed blocks. Construction activities (see **Table 14.12**) for the Bellrock WFDA will include: site preparation works (e.g. surveys, seabed preparation, UXO clearance, debris clearance, and out of service cable/pipeline removal), installation of infrastructure (e.g. SKS, FOU, IACs, subsea cable hubs, cable and scour protection), towing of FOU to site from wet storage location(s)/port(s)). Safety Zones are expected to be in place; up to 500 m around each FOU during its construction, and 50 m around each installed WTG and substructure during its pre-commissioning. Site preparation works will commence from 2030, and the construction period for the Bellrock WFDA will be from 2031-2037, together totalling up to eight years.
75. It is anticipated that other vessel operators will be able to alter their route or transit past installation activities and any associated Safety Zones and advisory safe passing distances for the Bellrock WFDA, given the adequate sea room around the Bellrock WFDA. Similarly, vessels associated with Bellrock will also alter course to avoid oil and gas infrastructure or safety zones where

necessary. As third-party vessels will be aware of the Bellrock WFDA construction activities, it is expected that they will be able to plan and re-route with minimal interference to access.

76. The Applicant will implement practices and procedures which will support the safe coexistence between the Bellrock WFDA and other projects and developments. As described in **Table 14.13**, embedded mitigation would act to reduce or avoid potential risk of adverse effects to the operations of the oil and gas industry resulting from the construction phase of the Bellrock WFDA. This includes the use of safety zones during construction and marine coordination, as well as issue of Notices to Mariners advising of planned activities, the use of appropriate lighting, marking and charting of relevant infrastructure/activity. A series of management plans will also be developed to protect other marine users (**Section 14.7.3**), including the NSP, VMP, DSLP, ERCoP and LMP and SAR Checklist. **Chapter 12: Shipping and Navigation (Volume II)** concludes that the activities associated with shipping and navigation will be managed and regulated to ensure safe operations in the central North Sea and the effects of all impacts are expected to be tolerable or broadly acceptable and therefore not significant.
77. As discussed in **Chapter 13: Aviation and Radar (Volume II)** the Applicant has reached out to the central North Sea helicopter operators to determine whether the presence of the Bellrock Wind Farm Infrastructure may necessitate any mitigation. The final layout of WTGs will take into account any such mitigation requirements and will also ensure the compatibility with possible SAR helicopter operations within the Bellrock WFDA. In addition, the predicted helicopter movements during the construction phase will be managed by existing Air Traffic Services infrastructure provided in accordance with national procedures, and pilots of any helicopters operating the area will be expected to operate in accordance with regulatory requirements.
78. Future exploration or development activities in the licenced blocks that overlap the Bellrock WFDA are currently not known. However, the Applicant will engage with relevant licensees to ensure the correct steps are taken to minimise any disruption caused.
79. Considering these measures, any disruption to oil and gas activities during the construction phase will be temporary, highly localised and therefore the magnitude of impact is considered to be **negligible**.

14.8.1.2.3 Significance of Effect

80. The sensitivity of oil and gas operations during construction of the Bellrock WFDA is considered to be **high**. The magnitude of the potential impact during construction is deemed as **negligible**. The effect is therefore of **minor adverse** significance, which is **not** significant in EIA terms.
81. No additional mitigation is required to manage potential effects on oil and gas operations during construction.

14.8.2 Potential Impacts During Operation and Maintenance

14.8.2.1 Impact O1: Impacts on Other Offshore Wind Farms and/or Disruption to Associated Activities

82. Depending on the port(s) chosen as the operations and maintenance base, movements of vessels and helicopters contracted to undertake maintenance activities associated with the Bellrock WFDA may have the potential to affect or restrict access to infrastructure for maintenance activities, routine operations and activities of the Ossian Array.

14.8.2.1.1 Sensitivity

83. The sensitivity of the Ossian Array is considered to be **high** for the O&M phase of the Bellrock WFDA, as described for construction in **Section 14.8.1.2**.

14.8.2.1.2 Magnitude of Impact

84. Major maintenance activities may be necessary and may require the use of vessels such as service operation vessels, crew transfer vessels, anchor handling tug vessels, jack-up and cable repair vessels. It is expected that temporary Safety Zones of up to 500 m will be established around each FOU during major maintenance activities in the operational phase. Advisory safe passing distance may also be requested around maintenance activities on IACs as required. Maintenance activities will be more localised (i.e. restricted to specific areas) and temporary (i.e. shorter duration) compared to construction activities (see **Table 14.12**). Vessels will be able to transit through the Bellrock WFDA during operation and Safety Zones would only be required intermittently for discrete areas during maintenance activities. In addition, consideration will be given to applying for 500 m operational Safety Zones around installed FOUs for the O&M phase. Any such application would be subject to the relevant statutory process and consultation requirements in place at the time.
85. As discussed in **Chapter 12: Shipping and Navigation** and **Chapter 13: Aviation and Radar (Volume II)** the Applicant will implement practices and procedures which would support the safe coexistence between the Bellrock Wind Farm Infrastructure and other projects and developments, including their vessels and helicopters. The Bellrock WFDA and relevant Wind Farm Infrastructure will be displayed on admiralty charts by the UK Hydrographic Office and embedded mitigation will be implemented, as discussed in **Section 14.7.3**, including the issue of Notices to Mariners advising of planned maintenance activities, the use of appropriate lighting, marking and charting of relevant infrastructure/activity. A series of management plans will be in place throughout the O&M phase of the Bellrock WFDA to protect other marine users (**Section 14.7.3**), including the NSP, VMP, DSLP ERCoP and LMP and SAR Checklist.
86. Considering these measures to ensure safe operations with minimal disturbances to the activities of other offshore wind farms, the magnitude of impact during O&M will be temporary, intermittent and highly localised, and is therefore considered to be **negligible**.

14.8.2.1.3 Significance of Effect

87. The sensitivity of the Ossian Array during O&M of the Bellrock WFDA is considered to be **high**. The magnitude of the potential impact during O&M is deemed as **negligible** and the effect will therefore be of **minor adverse** significance, which is **not** significant in EIA terms.

88. No additional mitigation is required to manage potential effects on other offshore wind farms during the O&M phase.

14.8.2.2 Impact O2: Impacts on Offshore Oil and Gas Operations and/or Disruption to Associated Activities

89. Depending on the port(s) chosen as the operations and maintenance base for the Bellrock Project, movements of vessels and helicopters contracted to undertake maintenance activities associated with the Bellrock WFDA may have the potential to affect or restrict access to license blocks and activities of any future oil and gas activities within the Bellrock WDFDA.

14.8.2.2.1 Sensitivity

90. The sensitivity of oil and gas industry and associated activities is considered to be **high** for the O&M phase of the Bellrock WFDA, as described for construction in **Section 14.8.1.2**.

14.8.2.2.2 Magnitude of Impact

91. Major maintenance activities may be necessary and may require the use of large vessels and the use of temporary Safety Zones (500 m) around major maintenance activities. However, activities and potential obstructions during maintenance activities are expected to be more localised (i.e. restricted to specific areas), intermittent and temporary (i.e. shorter duration) compared to construction (see **Table 14.12**). Vessels will be able to transit through the Bellrock WFDA during operation, and Safety Zones would only be required intermittently for discrete areas during maintenance activities. In addition, consideration will be given to applying for 500 m operational Safety Zones around installed FOUs for the O&M phase. Any such application would be subject to the relevant statutory process and consultation requirements in place at the time.
92. The Applicant will implement practices and procedures which would support the safe coexistence between the Bellrock Wind Farm Infrastructure and other projects and developments. The Bellrock WFDA and relevant Wind Farm Infrastructure will be displayed on admiralty charts by the UK Hydrographic Office and embedded mitigation will be implemented, as discussed in **Section 14.7.3**, including the issue of Notices to Mariners advising of planned maintenance activities, the use of appropriate lighting, marking and charting of relevant infrastructure/activity. A series of management plans will be in place throughout the O&M phase of the Bellrock WFDA to protect other marine users (**Section 14.7.3**), including the NSP, VMP, DSLP and LMP. The Applicant will continue communication with the relevant oil and gas operators/licensees throughout the O&M phase of the Bellrock WFDA, to protect other marine users and ensure safe operations with minimal disturbances to the activities of the oil and gas industry. There is adequate sea room around the Bellrock WFDA, enabling vessels and helicopters on transit to oil and gas facilities further offshore from Bellrock to have ample space to manoeuvre around any Safety Zones associated with the Bellrock WFDA or navigate around the Bellrock WFDA. As third-party vessels will be aware of the Wind Farm Infrastructure within the Bellrock WFDA and associated maintenance activities, it is expected that third-party vessels will be able to plan and re-route with minimal interference.
93. Disruption to oil and gas exploration and development activities will depend on their (as yet unknown) level of planned activities. Any disruption caused by the presence of vessels and Safety Zones will be temporary and short-term, however, any loss of areas for future oil and gas exploration and development from the presence of the Wind Farm Infrastructure would be long-

term throughout the duration of the Bellrock WFDA. The Applicant will engage with relevant operators/licensees to ensure the correct steps are taken to minimise any disruption caused.

94. Considering these measures, the magnitude of impact during O&M will be temporary, intermittent and highly localised, and is therefore considered to be **negligible**.

14.8.2.2.3 Significance of Effect

95. The sensitivity of oil and gas operations during O&M of the Bellrock WFDA is considered to be **high**. The magnitude of the potential impact during O&M is deemed as **negligible**. The effect is therefore of **minor adverse** significance, which is **not** significant in EIA terms.
96. No additional mitigation is required to manage potential effects on oil and gas operations during the O&M phase.

14.8.3 Potential Impacts During Decommissioning

97. The sequence of decommissioning is likely to be the reverse of the construction sequence, taking around seven years, with similar types and numbers of vessels and equipment expected to be involved. It is expected that the Bellrock Wind Farm Infrastructure will be fully removed at the end of its operational life. The removal and dismantling of the FOU's will largely be a reversal of the installation process. Generally, the FOU's will be towed from the Bellrock WFDA to a suitable port for decommissioning. Mooring lines and anchors will be recovered and removed from the WFDA. For FOU driven pile anchors, these are expected to be either fully removed or cut off below seabed level with a proportion remaining in-situ (due to anticipated excessive cost in their complete removal) following good practice and consideration of environmental conditions and sensitivities. Subsea cable hubs are expected to be fully removed from the seabed. The dynamic sections of the IACs within the water column will be cut at the connector with the static IAC and fully removed. The approach for decommissioning the static IACs on the seabed is yet to be determined, however, this will be reviewed throughout the lifetime of the Bellrock WFDA and good practice guidance at time of decommissioning will be followed.
98. Subject to the material used and environmental sensitivities, it may be preferable to leave scour protection in-situ to preserve the marine habitat that may have developed over the life of the Bellrock WFDA. The approach for decommissioning cable protection will be similar to scour protection. Relevant stakeholders and regulators will be consulted to establish the best approach. Good practice guidance at time of decommissioning will be followed.
99. These details will be included in a Decommissioning Programme which will be developed prior to the commencement of construction, and which will be updated prior to commencement of the decommissioning process. A description of decommissioning activities is provided in **Chapter 4: Project Description (Volume II)**.

14.8.3.1 Impact D1: Impacts on Other Offshore Wind Farms and/or Disruption to Associated Activities

100. The sensitivity and magnitude of impact during decommissioning would be comparable to or less than those identified for the construction phase (**Section 14.8.1.1**). Implementing embedded mitigation measures throughout the decommissioning phase would further limit effects (see **Section 14.7.3**), and the effect of disruption on the Ossian Array from activities associated with the

Bellrock WFDA during decommissioning has been assessed as **minor adverse** which is **not** significant in EIA terms.

14.8.3.2 Impact D2: Impacts on Offshore Oil and Gas Operations and/or Disruption to Associated Activities

101. The sensitivity and magnitude of impact during decommissioning on oil and gas operations and activities, would be comparable to or less than those identified for the construction phase. A long-term decline in oil and gas production in the North Sea is anticipated. However, it is acknowledged that there is still the potential for future oil and gas exploration in the Bellrock WFDA and vicinity. The effect of disruption on oil and gas operations and associated activities from activities associated with the Bellrock WFDA during decommissioning has been assessed as **minor adverse** which is **not** significant in EIA terms.

14.9 Cumulative Effects Assessment

102. The assessment of cumulative impacts determines the potential impacts that could occur between the Bellrock WFDA and other plans or projects. This approach to the CEA is outlined further in **Chapter 5: EIA Methodology (Volume II)**. Potential cumulative impacts to vessels are discussed in **Chapter 12: Shipping and Navigation (Volume II)**.
103. The potential cumulative impacts of the Bellrock Wind Farm Infrastructure on marine infrastructure and other users have been assessed to be **not significant** (i.e. of minor or negligible significance) or able to be fully mitigated through consultation with the relevant parties for the construction, O&M and decommissioning phases.
104. All other parties (i.e. other wind farm operators or oil and gas operators), as identified in **Section 14.6.1** and **14.6.2** that interact with the same receptor will also need to demonstrate no impact (i.e. through avoidance) or agree mitigation with the operators. The Applicant, along with all other users of the sea, will implement practices and procedures which would support the safe coexistence between the infrastructure and associated activities of their relevant projects and developments.
105. As discussed in **Chapter 12: Shipping and Navigation (Volume II)**, there is adequate sea room around all other offshore wind farm projects, enabling vessels facilitating the Bellrock WFDA to be able to alter their route or transit past installation activities and associated safety zones of other offshore wind farms/oil and gas licence blocks. Likewise, vessels in transit to other wind farms further offshore from Bellrock (for example, the proposed Cedar or Cenos projects) will have ample space to manoeuvre around any safety zones associated with the Bellrock WFDA. As third-party vessels were aware of the Bellrock WFDA construction activities and operational footprint, it is expected that they will be able to plan and re-route with minimal interference to access and limited disruption to activities/operations.
106. As discussed in **Chapter 13: Aviation and Radar (Volume II)**, potential impacts on low flying aircraft in the vicinity of the Bellrock WFDA was mitigated through the development of an LMP in agreement with key aviation stakeholders, and through the provision of the positions and heights of structures to the Civil Aviation Authority, MOD, and Defence Geographic Centre to enable

appropriate marking on aeronautical charts. The LMP will cover the lighting and marking of construction equipment such as tall cranes. An Outline LMP is provided in **Volume V**.

- 107. Lighting of WTGs will consider MOD and SAR requirements, and the final WTG layout was compatible with SAR helicopter operations. An ERCoP was developed and implemented for each phase of the Bellrock Wind Farm Infrastructure.
- 108. The Applicant will continue to engage and communicate with other project developers in the region.
- 109. Therefore, no project will have a direct impact on another user, and by extension it is considered that there was no pathways for cumulative impacts from the Bellrock WFDA.

14.10 Inter-related and Interacting Impacts

14.10.1 Inter-relationships

- 110. **Table 14.14** below provides a summary of the key inter-relationships between marine infrastructure and other users and other technical chapters and indicates where those issues have been addressed in the relevant chapters.

Table 14.14: Marine Infrastructure and Other Users Inter-relationships

| Topic and Description | Related Chapter(s) | Where Addressed in This Chapter | Rationale |
|--|--|---------------------------------|---|
| All Phases | | | |
| Impacts on other offshore wind farms and/or disruption to associated activities (Impact C1, O1 and D1) | Chapter 12: Shipping and Navigation (Volume II) Chapter 13: Aviation and Radar (Volume II) Chapter 16: Socioeconomics, Tourism and Recreation (Volume II) | Section 14.4 | Navigational and aviation safety impacts associated with offshore vessels in transit and helicopter operations are considered in Chapter 12: Shipping and Navigation (Volume II) and Chapter 13: Aviation and Radar (Volume II) respectively. |
| Impacts on offshore oil and gas operations and/or disruption to associated activities (Impact C2, O2 and D2) | Chapter 12: Shipping and Navigation (Volume II) Chapter 13: Aviation and Radar (Volume II) Chapter 16: Socioeconomics, Tourism and Recreation (Volume II) | Section 14.4 | Navigational and aviation safety impacts associated with offshore vessels in transit and helicopter operations are considered in Chapter 12: Shipping and Navigation (Volume II) and Chapter 13: Aviation and Radar (Volume II) respectively. |

14.10.2 Interactions

111. The impacts identified and assessed in this Chapter could have the potential to interact with each other. However, in this case there are no potential interactions between effects on infrastructure and other users described in this Chapter as these are all separate, non-related receptors. Considering all phases of the Bellrock WFDA (lifetime assessment, **Table 14.15**), no effects have been identified that would be greater than each individually assessed.

Table 14.15: Potential Interactions Between Impacts - Phase and Lifetime Assessment

| Highest Significance of Effect Level | | | | | |
|--|---------------------|----------------|------------------------|---|---|
| Receptor | Construction | O&M | Decommissioning | Phase Assessment (Construction or O&M or Decommissioning – see Chapter 5: EIA Methodology (Volume II)) | Lifetime Assessment |
| Other offshore wind farms (Ossian Array) and associated activities | Minor adverse | Minor adverse | Minor adverse | <p>No greater than individually assessed impact.</p> <p>Direct impacts associated with offshore vessel movements, such as restriction on space, may occur. However, through the application of mitigation as detailed in Table 14.13, the magnitude would be no greater than each phase in isolation.</p> | <p>No greater than individually assessed impact.</p> <p>As for the phase assessment, all potential impacts are non-significant and localised in nature, limiting the potential for different impacts to interact across the different phases.</p> |
| Oil and gas operations and associated activities | Minor adverse | Minor adverse | Minor adverse | <p>No greater than individually assessed impact.</p> <p>Direct impacts associated with offshore vessel movements, such as restriction on space, may occur. However, through the application of mitigation as detailed in Table 14.13, the magnitude would be no greater than each phase in isolation.</p> <p>Indirect impacts on any active oil and gas activities within the W DFA area or access to existing oil and gas assets are expected to be negligible.</p> | <p>No greater than individually assessed impact.</p> <p>As for the phase assessment, all potential impacts are non-significant and localised in nature, limiting the potential for different impacts to interact across the different phases.</p> |

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14.11 Summary

112. **Table 14.16** presents a summary of the assessment of potential effects on marine infrastructure and other users during the construction, O&M and decommissioning phases of the Bellrock WFDA.
113. No significant impacts are expected to occur for offshore wind farms or oil and gas operations.
114. With the application of embedded mitigation (**Table 14.13**), for all phases (construction, O&M and decommissioning), the potential effects on the proposed Ossian project are assessed as being of **minor adverse** significance. The overall phase assessment concludes that the combined effect is no greater than the individually assessed effects for each phase. As for the phase assessment, all potential effects in the lifetime assessment are assessed to be non-significant.
115. With the application of embedded mitigation (**Table 14.13**), for all phases (construction, O&M and decommissioning), the effects on oil and gas operations and associated activities, is assessed as being of **minor adverse** significance. The overall phase assessment concludes that the combined effect is no greater than the individually assessed effects for each phase. As for the phase assessment, all potential effects in the lifetime assessment are assessed to be non-significant.
116. No additional mitigation is required to manage potential interactions with existing or planned offshore wind farms, or oil and gas operations/activities. The project design and embedded measures are considered sufficient to ensure coexistence with these marine users throughout all phases of the development.

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Table 14.16: Summary of Potential Effects for Marine Infrastructure and Other Users

| Potential Impact | Receptor(s) | Sensitivity | Magnitude of Impact | Significance of Effect | Secondary Mitigation | Residual Significance of Effect | Cumulative Residual Significance of Effect |
|---|------------------------|-------------|---------------------|------------------------|----------------------|---------------------------------|--|
| Construction | | | | | | | |
| C1: Impacts on other offshore wind farms and/or disruption to associated activities | Ossian | High | Negligible | Minor adverse | None | Minor adverse (not significant) | N/A |
| C2: Impacts on offshore oil and gas operations and/or disruption to associated activities | Oil and gas operations | High | Negligible | Minor adverse | None | Minor adverse (not significant) | N/A |
| Operation and Maintenance | | | | | | | |
| O1: Impacts on other offshore wind farms and/or disruption to associated activities | Ossian | High | Negligible | Minor adverse | None | Minor adverse (not significant) | N/A |
| O2: Impacts on offshore oil and gas operations | Oil and gas operations | High | Negligible | Minor adverse | None | Minor adverse (not significant) | N/A |
| Decommissioning | | | | | | | |
| D1: Impacts on other offshore wind farms and/or disruption to associated activities | Ossian | High | Negligible | Minor adverse | None | Minor adverse (not significant) | N/A |

| Potential Impact | Receptor(s) | Sensitivity | Magnitude of Impact | Significance of Effect | Secondary Mitigation | Residual Significance of Effect | Cumulative Residual Significance of Effect |
|--|------------------------|-------------|---------------------|------------------------|----------------------|---------------------------------|--|
| D2: Impacts on offshore oil and gas operations | Oil and gas operations | High | Negligible | Minor adverse | None | Minor adverse (not significant) | N/A |

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