

British Telecom
("BT")

From: [REDACTED](#)
To: [REDACTED](#)
Cc: [REDACTED](#)
Subject: RE: WID13479 - SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 01 August 2024 16:35:24
Attachments: [image003.png](#)
[image004.png](#)
[image006.png](#)

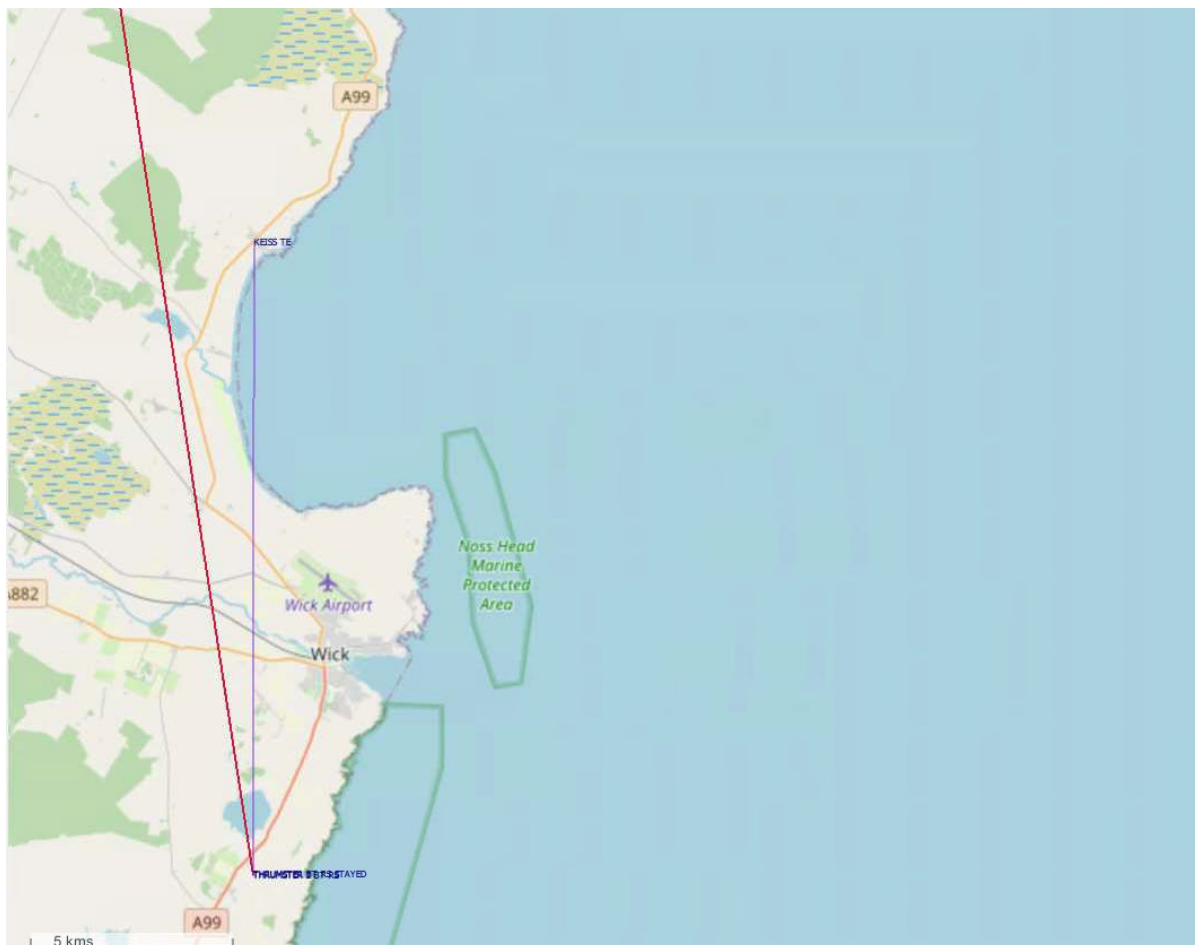


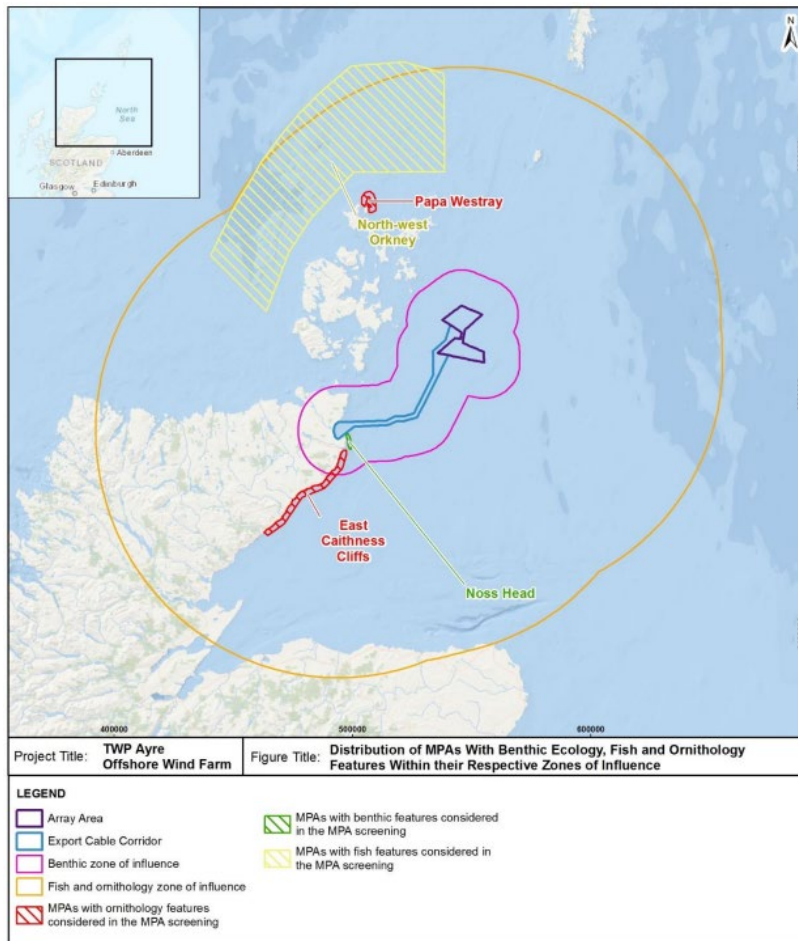
OUR REF; WID13479

Thank you for confirming this with the developers Amy.

We have studied this Thistle Wind Partners Limited Ayre Offshore Wind Farm scoping proposal with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that, the project indicated should not cause interference to BT's current and presently planned radio network.





BT requires 100m minimum clearance from any structure to the radio link path. If the proposed locations change, please let us know and we can reassess this for you.

Please note this refers to BT Radio Links only, you will need to contact other providers separately for information relating to other supplier links / equipment.

Please direct all queries to radionetworkprotection@bt.com

Kind regards

REDACTED
National Radio Planner
Network Planning

E: radionetworkprotection@bt.com



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From: REDACTED

Sent: Friday, July 26, 2024 4:30 PM

To: REDACTED

Cc: REDACTED

Subject: RE: WID13479 - SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024

Good afternoon,

Thank you for your email.

The developer has confirmed that there will be no structures at height in the 'Export Corridor'.

Please let me know if you require anything further.

Kind regards,
Amy

Amy Woodward

Marine Licensing and Consenting Casework Officer, Licensing Operations Team, Marine Directorate

Scottish Government, Victoria Quay, Edinburgh, EH6 6QQ

E: amy.woodward@gov.scot

The Scottish Government



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Integrity



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[Marine licensing and consenting: privacy notice - gov.scot \(www.gov.scot\)](#)

From: radionetworkprotection@bt.com <radionetworkprotection@bt.com>

Sent: Wednesday, July 17, 2024 1:44 PM

To: MD Marine Renewables <MD.MarineRenewables@gov.scot>

Cc: radionetworkprotection@bt.com

Subject: FW: WID13479 - SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024



-
-

OUR REF; WID13479

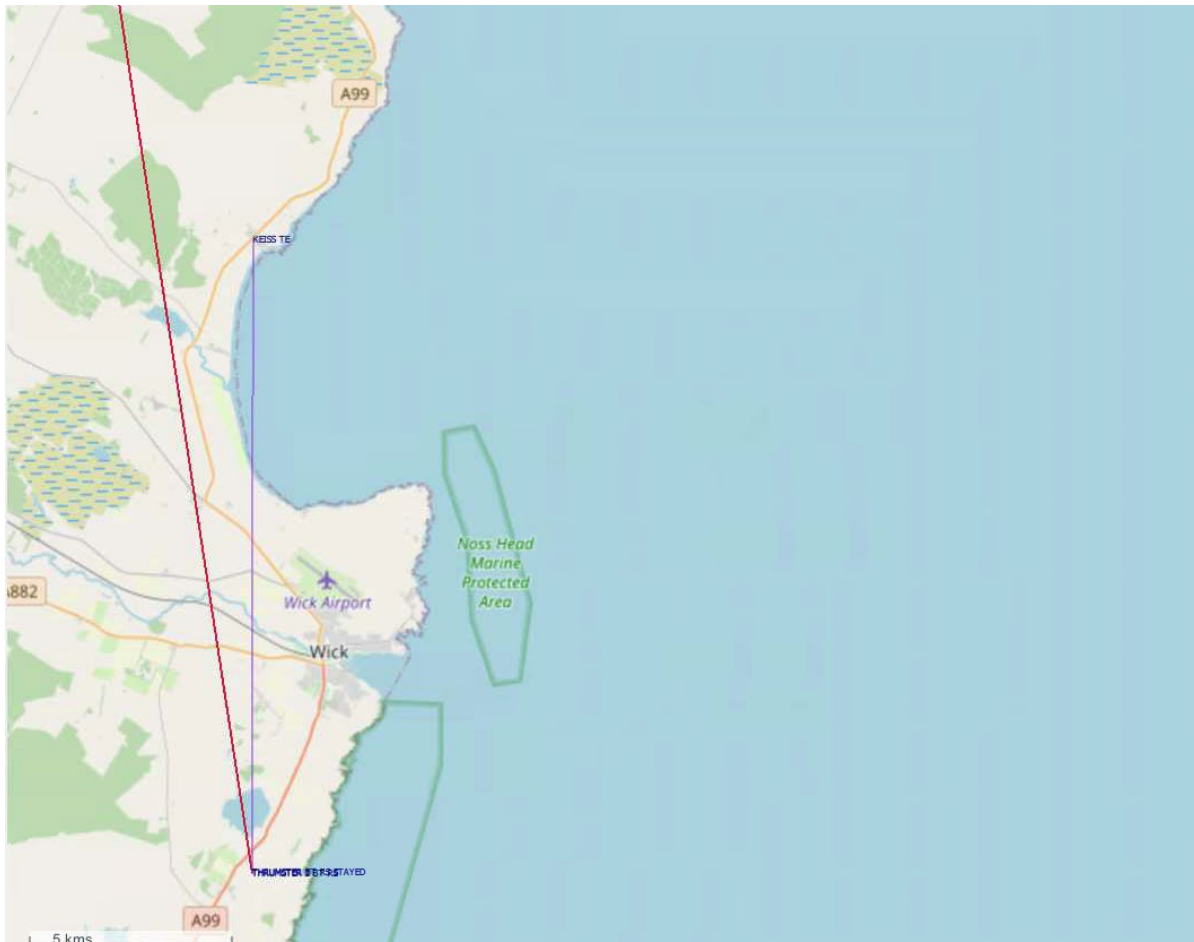
Thank you for your email dated 04/07/2024.

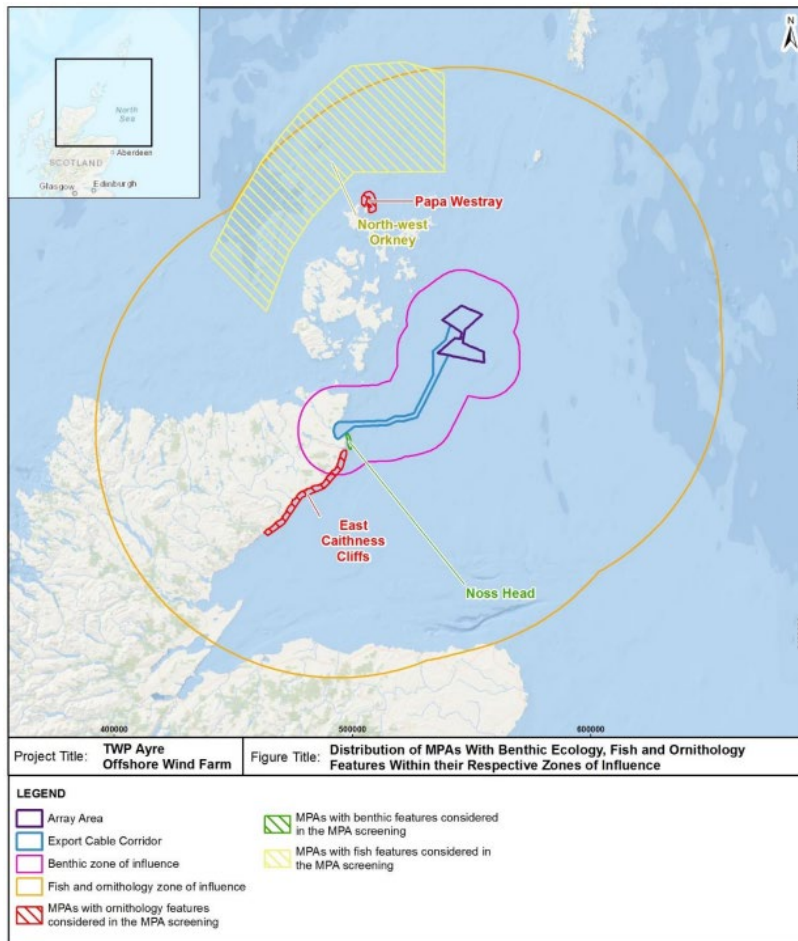
We have studied this Windburn Wind Farm scoping proposal with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that, the 'Array Area' indicated should not cause interference to BT's current and presently planned radio network.

BT do have a Radio Link from THUMSTER BT RS to KEISS TE which is in the vicinity of the 'Export Corridor'. Can you please confirm with the applicant that there will be no structures at height in the 'Export Corridor'?

We would need this clarified in order to fully assess this scoping proposal.





BT requires 100m minimum clearance from any structure to the radio link path. If the proposed locations change, please let us know and we can reassess this for you.

Please note this refers to BT Radio Links only, you will need to contact other providers separately for information relating to other supplier links / equipment.

Please direct all queries to radionetworkprotection@bt.com

Kind regards

REDACTED
National Radio Planner
Network Planning

E: radionetworkprotection@bt.com



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**Caithness District
Salmon Fishery
Board
("Caithness
DSFB")**

Caithness District Salmon Fishery Board

Caithness District Salmon Fishery Board has a statutory duty to protect salmon and sea trout in its area of responsibility. In this regard, the proposed Ayre Offshore Wind Farm has the potential to adversely affect adult salmon migrating inwards towards their Caithness home rivers (Rivers Forss to Langwell) (including the River Thurso SAC and Berriedale/ Langwell SAC) via any migration route that exists along the east coast of the Orkney Islands. All the East Coast rivers further south (including several additional salmon SACS) will be affected in the same way and the rivers of the Northern District Salmon Fishery Board to the west (Halladale to Kinloch) (including the River Borgie SAC and River Naver SAC) will be affected, too. Additionally, the export cable route intersects another, proven migration route for adult salmon passing eastwards through the Pentland Firth towards the rivers of eastern Caithness and all the salmon rivers further south along the East Coast.

The outwards route(s) for salmon smolts leaving the rivers of the north coast (eg the River Thurso) are presently unknown but if they mirror the patterns evident for smolts leaving the Inner Moray Firth rivers, and more recently Wick River, they will pass eastwards through the Pentland Firth to cross the export cable route and, plausibly, then move through the Ayre turbine array.

Accordingly, the Boards require that the EIA considers the effects of predator aggregation (eg large gadoids/ grey seals) around the proposed development on migrating salmonids at both the smolt and adult stages and, additionally, physical barrier effects on salmon during construction and operation (eg noise, shadow flicker). In this regard, it should be noted that NatureScot has formally conceded that shadow flicker from moving turbine blades (and also the direct visual effects of moving blades) may adversely affect salmonids in freshwater habitat. Since exactly the same physical principles apply in the marine environment, surface-orientated fish like salmonids are likely to be exposed to equivalent adverse effects.

Finally, the River Wester is a noted sea-trout river that is sometimes overlooked. The Wester enters the sea around the midpoint of Sinclair Bay and is potentially, therefore, the river most directly at risk from works associated with the export cable and its landfall. A marine sports fishery for seatrout is active in the vicinity of the river mouth. Indeed, similar to cases elsewhere, the entirety of Sinclair Bay may be utilised as a sheltered feeding habitat by adult seatrout from Wester (and perhaps elsewhere). Sinclair Bay and the River Wester and its sea trout should therefore receive specific and detailed consideration in the EIA; the exact location of the cable landfall site will be a critical consideration.

In summary, the Scoping Report for the proposed Ayre Offshore Wind Farm mostly covers the appropriate ground but it must be drawn extensively enough to address the Boards' additional concerns re diadromous fish, as listed above.

The Boards are not naïve enough to imagine that the issues they have raised can be unequivocally addressed in the conventional EIA framework (ie. consideration of impacts and assessment of significance of resultant effects). This is because the pace of offshore development has outstripped the capacity of researchers to supply critical information. In this context and with regard to West of Orkney Wind Farm, MSS (now MD) stated "*MSS do not consider it appropriate for an EIA/HRA to conclude there is no or negligible impact just because no evidence exists of the impact. MSS advise*

that impacts to diadromous fish must be adequately investigated, rather than relying on a lack of evidence to claim there is no impact”.

The Boards wholeheartedly support MD’s position and rather than the usual blanket series of assessments of “no significant effect” the Boards propose that assessments for the Ayre Wind Farm proposal should include a new category - “Assessment not possible due to lack of information”. This need not hamper development and it would have the triple advantages of being honest and even-handed, pinpointing crucial data gaps to be filled and drawing a sharper focus on measures for precautionary mitigation.

Kind regards,

REDACTED

Clerk to **Caithness District Salmon Fishery Board**

Department of
Agriculture,
Environment and
Rural Affairs

From: [DAERA Marine Information Requests](#)
To: [MD Marine Renewables](#)
Subject: RE: CM: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 02 August 2024 15:46:27
Attachments: [image001.png](#)
[image002.png](#)

Hi
This is a nil return from NI Marine and Fisheries.
Thanks
REDACTED



Department of
**Agriculture, Environment
and Rural Affairs**
www.daera-ni.gov.uk

Sustainability at the heart of a
*living, working, active landscape
valued by everyone.*

Fisheries
Management
Scotland
("FMS")



T: +44 (0)131 221 6567

E: general@fms.scot

Marine Directorate Marine Renewables (by e-mail)

12 July 2024

Dear Sir/Madam

Fisheries Management Scotland is the representative body for Scotland's District Salmon Fishery Boards, the River Tweed Commission and charitable Rivers and Fisheries Trusts. Our members work to conserve Scotland's valuable and iconic wild salmon and freshwater fish and fisheries and the aquatic environment on which they depend.

Offshore renewable energy has an important role to play if the Scottish Government are to meet their commitment for Scotland to reach net-zero emissions of all greenhouse gases by 2045. However, there remain a number of outstanding questions and concerns about the potential negative effects on diadromous fish, including Atlantic salmon and sea trout.

District Salmon Fishery Boards have a statutory duty to protect and improve salmon and sea trout fisheries. In assessing marine renewable energy developments (wind, wave or tidal), it is important that DSFBs and Fisheries Trusts, can be assured that all potential negative impacts have been assessed in full, and mitigations put in place. Where uncertainty remains, the developer should be required to contribute to research which will help fill these evidence gaps, as a condition of their operational consent. In addition, and in the light of the nature crisis, we believe that all developers should contribute to projects designed to conserve and restore important habitat at a catchment scale.

Across Scotland, wild salmon populations are in crisis, and face a range of pressures, some of which are under human control. The Scottish Government have published a [wild salmon strategy](#) and [implementation plan](#), which sets out the actions to be taken over a five year period to 2028. The implementation plan includes a number of actions under the heading of understanding and mitigating pressures in the marine and coastal environment.

Where salmon populations are below their conservation limits, any additional pressure, including from marine renewables, cannot be considered sustainable. Scottish salmon rivers are categorised by the Scottish Government under The Conservation of Salmon (Scotland) Regulations 2016, according to the likelihood of them meeting their conservation limits. The most recent river gradings have been [published for 2024](#). There are now 112 rivers across Scotland graded as Category 3, meaning there is a less than 60% probability of meeting their conservation limit.

It is now well-recognised that populations of Atlantic salmon have rapidly deteriorated across their native range. In the latest species reassessment by the [IUCN Red List](#) of Threatened Species, released in December 2023, Atlantic salmon have been reclassified from 'Least Concern' to 'Endangered' in

Great Britain (as a result of a 30-50% decline in British populations since 2006 and 50-80% projected between 2010-2025), and from 'Least Concern' to 'Near Threatened' in terms of global populations (as a result of global populations declines of 23% since 2006).

We note, and support, the recent position that the Marine Directorate have taken - "*MSS do not consider it appropriate for an EIA/HRA to conclude there is no or negligible impact just because no evidence exists of the impact. MSS advise that impacts to diadromous fish must be adequately investigated, rather than relying on a lack of evidence to claim there is no impact*".

There are 17 Special Areas of Conservation for which Atlantic salmon are either a primary reason (11 sites) or a qualifying feature (six sites). For sea lamprey, there are six SAC sites (three primary and three qualifying) and for river lamprey, there are six SAC sites (three primary and three qualifying). For freshwater pearl mussel, there are 19 SAC sites (14 primary and five qualifying).

Given what is currently known about salmon migration routes, we consider that all of these SACs are relevant to the proposed development, and the export cable route.

Whilst there is often a focus on rivers designated as Special Areas of Conservation (SACs), it is important to recognise that the drivers behind declines in wild salmon and sea trout, and other species of migratory fish, affect **all** rivers to a greater or lesser extent. It is important to emphasise that the marine phases of both Atlantic salmon and sea trout are included on the list of Priority Marine Features - the habitats and species of *greatest conservation importance* in inshore waters.

Under Scottish Marine Energy Research (ScotMER), the [Diadromous Fish Receptor Group](#) has identified evidence gaps related to the health, distribution, and impacts on Diadromous fish (salmon, sea trout, etc.). Scottish Government has published an 'evidence map' (available for download at the above link) which identifies and scores these evidence gaps according to a specific prioritisation process. It is important that each of these evidence gaps is considered in full by the applicant, and developers should *contribute* to filling these evidence gaps as a **specific condition of consent**.

In order to properly assess Environmental Statements for developments, information on the use of the development area by diadromous fish should be provided. If such information is lacking then a suitable monitoring strategy should be devised, either for the site in question or through contributing to strategic projects undertaken through ScotMER. Any monitoring strategies must include pre-construction monitoring in order that baseline information on movement, abundance, swimming depth, feeding behaviour etc. can be collected.

Offshore renewable developments have the potential to directly and indirectly impact diadromous fish. We would therefore expect developers to assess and, where necessary, mitigate the potential impacts of deployed devices on such fish during the deployment, operation and decommissioning phases. These potential impacts have been highlighted through ScotMER, and include:

- Avoidance (including exclusion from particular rivers and subsequent impacts on local populations);
- Disorientation effects that could potentially affect behaviour, susceptibility to predation or by-catch; and
- Impaired ability to locate normal feeding grounds or river of origin; and delayed migration

Fisheries Management Scotland request that, in addition to the evidence gaps identified by ScotMER, the EIA considers the effects of predator aggregation (e.g. large gadoids/ grey seals) around the proposed development on migrating salmonids at both the smolt and adult stages and, additionally, physical barrier effects on salmon during construction and operation (e.g. noise, shadow flicker). In

this regard, it should be noted that NatureScot has formally conceded that shadow flicker from moving turbine blades (and also the direct visual effects of moving blades) may adversely affect salmonids in freshwater habitat. Since exactly the same physical principles apply in the marine environment, surface-orientated fish like salmonids are likely to be exposed to equivalent adverse effects.

Conclusion

It should be emphasised that we have no wish to prevent or delay any proposed development unnecessarily and we remain keen to work constructively with the developers and Marine Scotland to identify appropriate monitoring programmes which will allow us to be able to assess the acknowledged risks of this development, and other proposed developments in a more appropriate manner. There is a clear and urgent need to fund, plan and start strategic research on the movement, abundance, swimming depth, feeding behaviour and impact pathways relevant to diadromous fish. Such research would clearly feed into the potential mitigation measures that might be deemed appropriate, and the conditions under which such mitigation should be enacted. Developers should be required to work together to fund strategic monitoring, in order to allow more certainty for all involved.

The scale of proposed offshore developments and other technical approaches to marine renewables development represents a step-change in the exposure of marine animals of high cultural and economic significance to attendant risks. As highlighted above, understanding of many of these risks is insufficient to support proposals for mitigation even at this late stage when substantial developments are being submitted for licensing. The cumulative impact of this proposal alongside those developments already submitted or likely to follow in the near future is potentially even greater. We believe that more needs to be done to ensure that the best scientific talent is made available to find practicable ways to address the unresolved uncertainties. Fisheries Management Scotland would welcome an opportunity to constructively engage with any such process.

Yours faithfully,

REDACTED

Alan Wells

CEO, Fisheries Management Scotland

Highland and
Islands Airports
Limited
("HIAL")

From: [Safeguarding](#)
To: [REDACTED](#)
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 30 July 2024 16:15:05
Attachments: [image001.png](#)

OFFICIAL

Your reference: SCOP-0049

Our reference: 2024/196/KOI

Proposal: Thistle Wind Partners Limited – Ayre Offshore Wind Farm – Scotwind NE2 Site

Location: Approximately 22 km from Orkney

Dear Sir/Madam,

Highlands and Islands Airports Limited (HIAL) has been consulted on the above proposed development, received by this office on 4 July 2024.

The Scoping request contains insufficient information for HIAL to carry out an assessment on the impact to the safeguarding criteria of Kirkwall and Wick Airports. Coordinates of the extremities of the Array Area and the points closest to Kirkwall and Wick Airports, or the turbine locations, would be required for assessment purposes.

However, the Array Area lies within the Instrument Flight Procedure (IFP) safeguarding criteria of Kirkwall Airport and appears to be on the periphery of the IFP safeguarding criteria for Wick Airport.

Therefore, Highlands and Islands Airports Limited currently submit a holding objection to this development until further detail is provided for assessment purposes.

- Any variation of the parameters (which include the location, dimensions, form, and finishing materials) then as a statutory consultee HIAL requires that it be further consulted on any such changes prior to any planning permission, or any consent being granted.

Regards,

Safeguarding Team
Highlands and Islands Airports Limited
safeguarding@hial.co.uk

Please can any consultation requests/correspondence be sent to safeguarding@hial.co.uk and not info@hial.co.uk

From: REDACTED
Sent: Friday, July 5, 2024 8:53 AM
To: Safeguarding <Safeguarding@hial.co.uk>
Subject: Fw: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024

OFFICIAL

Good morning,

Please see below an email regarding a windfarm off Orkney.

Best wishes,

Highlands and Islands Airports Limited

Head Office

Inverness Airport

Inverness

IV2 7JB

**Historic
Environment
Scotland ("HES")**



By email:

MD.MarineRenewables@gov.scot

Marine Directorate (Marine Renewables)
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Enquiry Line: 0131-668-8716
HMConsultations@hes.scot

Our case ID: 300068373
Your ref: SCOP-0049
27 August 2024

Dear Marine Directorate

The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Ayre Offshore Wind Farm - Scotwind NE2 Site - Approximately 22 km from Orkney - Section 36 and Marine License

Thank you for your consultation about the above scoping report which we received on 04 July 2024. We have reviewed the details in terms of our historic environment interests. This covers world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs).

The relevant local authority's archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include topics covered by [our advice-giving role](#), and also other topics such as unscheduled archaeology, and category B- and C-listed buildings. In this case, you should contact the Orkney Islands Archaeologist and the Highland Council Historic Environment Team.

Proposed Development

We understand that the proposed development comprises a maximum of 67 turbines standing up to 368.81m high, plus associated infrastructure including:

- Associated supporting structures, including floating foundations, mooring systems and anchors;
- A network of cables linking the individual turbines together
- Scour and cable protection
- Up to three offshore substation platforms and associated support structures, foundations and scour protection;
- Up to four offshore export cables, connecting the offshore substation platforms to the landfall location;
- one immediate reactive compensation platform; and



- cable protection and / or utility crossings where required.

Our Advice

We welcome the production of both Cultural Heritage and Marine Archaeology chapters within the scoping report, and note that this application covers the offshore elements of the proposed development.

We are content with the outcomes of the scoping report with respect to marine archaeology; the approach is robust and appropriate. We do however have a number of concerns surrounding the terrestrial elements to be scoped in. Further information has been provided in the annex to this letter.

Further information

Decisions that affect the historic environment should take the [Historic Environment Policy for Scotland](#) (HEPS) into account as a material consideration. HEPS is supported by our [Managing Change guidance series](#).

We hope this is helpful. If you would like to submit more information about this or any other proposed development to us for comment, please send it to our consultations mailbox, hmconsultations@hes.scot. If you have questions about this response, please contact Kevin Mooney at kevin.mooney@hes.scot.

Yours faithfully

Historic Environment Scotland



Annex

Marine archaeology

There are 14 known marine archaeological features either within the development boundary or within 2km of it. These assets are all listed in the scoping report. Of these 14, 7 vessels are WW1 or WW2 in origin, with 2 being sunk in active service with the Royal Navy. Direct physical impacts should be avoided, including where wreckage is dispersed and where the asset is located in a narrow route corridor. As noted in (*section 19.5.8*), it is possible that the Protection of Military Remains Act 1986 could be relevant to some of these wrecks so it is particularly important that physical impacts are avoided.

We note that impacts on the marine archaeological baseline will be scoped in to the assessment and we are content with the study areas defined for marine archaeology, and with the baseline data sources listed in (*section 19.3.1*) and presented in *table 19.1*. We welcome the proposals outlined in (*section 19.8.2*) to use project-specific survey outputs to enhance the understanding of marine archaeology within the study area. Any such survey work should be undertaken in a manner that facilitates its archaeological analysis and use. We are content that the potential impacts on marine archaeology and cultural heritage have been identified adequately within the Scoping Report.

We are content with the proposals outlined in (*section 19.6.1*) to use embedded mitigation strategies to manage and mitigate impacts on the marine archaeology. This includes the production of a Marine Archaeology Technical Report (*section 19.12.4*). We support the use of this information to avoid archaeological seabed features and to create appropriately sized Archaeological Exclusion Zones around marine archaeological assets.

We are also content with the proposals for development of a marine archaeological Written Scheme of Investigation (WSI) and a Protocol for Archaeological Discoveries (PAD), and welcome that these documents are to be developed as part of the EIA reporting process and updated post-consent (*section 19.8.1*).

Terrestrial archaeology

The evidence base for the scoping in or out of terrestrial assets is unclear. We are content with the list of assets proposed for scoping in, but the lack of site-specific justification of decisions to scope out assets makes it impossible to understand or assess those decisions.

There are a large number of designated assets located within 60km of the development boundary, spread across Orkney and Caithness. These are summarised in the scoping report in *Table 21.2*. The applicant sets out (*section 21.4.7*) that it would be



disproportionate to include all of these assets for assessment, so instead they have chosen the following sites. The rationale for the list of sites is set out as '*where there is a known visual relationship with the sea that contributes substantively to their cultural significance and where change as a result of the Proposed Development might result in significant effects*', and the site specific reasoning is set out in *Table 21.3*.

- [Quoyness, chambered cairn, Els Ness, Sanday \(SM90243\)](#)
- [Helliar Holm, chambered cairn \(SM1275\)](#)
- [Brough of Deerness, chapel and settlement \(SM4654\)](#)
- [Scad Head, coast artillery battery, camp and railway, Hoy \(SM13497\)](#)
- [Roan Head, coastal battery and camp \(WW1\) \(SM10945\)](#)
- [Burray Ness, anti-aircraft battery \(WW1\) Burray \(SM13499\)](#)
- [Isbister, chambered cairn 450 m ESE of \(SM2136\)](#)
- [Castle Girnigoe and Castle Sinclair \(SM622\)](#)

We would expect impacts on the setting of these assets to be assessed through the use of a detailed Zone of Theoretical Visibility (ZTV) as well as appropriate visualisations taking in key views associated with the setting of each monument. We would also expect a forthcoming EIA report to justify why some assets that fall within the ZTV have been scoped out.

The applicant also proposes to scope out impacts on the setting of [the Heart of Neolithic Orkney World Heritage Site \(WHS\)](#). The rationale for this is set out in *Table 21.5*, which states:

'The WHS is located in a natural bowl formed by the surrounding hills. The limits of the WHS Sensitive Zone largely follow the tops of the ridges that form the bowl. Development within the bowl or breaking the skyline when viewed from the Buffer Zone may affect the appreciation of relationships between the WHS and the wider physical landscape, which are critical to an understanding of the monuments. There is no potential for the Proposed Development to have such an impact.'

The report does not set out the evidence indicating that there is no potential for the proposed development to have an impact on the setting of the WHS. There is a preliminary ZTV at a coarse scale presented on *Figure 20.2* of the scoping report which suggests that there may be some visibility of the proposed turbines from the western side of the WHS looking east across the natural bowl formed by Loch of Harray and Loch of Stenness.

In the absence of reasoning and evidence to support the conclusion that impacts on the setting of the WHS should be scoped out, we disagree with the outcome of the scoping report and expect impacts on the setting of the WHS to be scoped into the EIA process..



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

We are happy to review this position if the applicant can provide additional information to support the conclusions reached in the scoping report.

Historic Environment Scotland

27 August 2024

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

**Joint Nature
Conservation
Committee**

From: [JNCC Offshore Industries Advice](#)
To: [MD Marine Renewables](#)
Cc: [JNCC Offshore Industries Advice](#)
Subject: JNCC - SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation
Date: 05 July 2024 12:08:26
Attachments: [image002.png](#)
[image003.png](#)

Good Afternoon Amy,

Thank you for consulting JNCC regarding the Ayre Offshore Wind Farm, which we received on 04/07/2024. JNCC's role in relation to offshore renewables in Scottish waters has been delegated to NatureScot. NatureScot is now authorised to exercise the JNCC's functions as a statutory consultee in respect of certain applications for offshore renewable energy installations in inshore and offshore waters (0-200nm) adjacent to Scotland. Therefore, NatureScot should provide a full response. NatureScot will contact JNCC directly if input is required but this would not be expected in this case as there are no offshore MPAs that overlap operations.

As such JNCC have not reviewed this document and will not be providing further comment.

Kind regards,

REDACTED

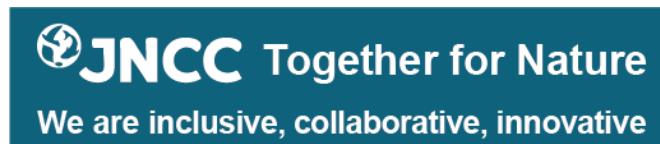
Offshore Industries Advice Officer
Marine Management Team

JNCC, Inverdee House, Baxter Street, Aberdeen, AB11 9QA

Tel: REDACTED

Working pattern: Monday to Friday

[Website](#) [Twitter](#) [Facebook](#) [LinkedIn](#)



-

Joint Radio Company

From: [JRC Windfarm Coordinations Old](#)
To: [MD Marine Renewables](#)
Cc: [Wind SSE](#)
Subject: Ayre Offshore Wind Farm - SCOP 0049 - Thistle Wind Partners Limited - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024 [WF871584]
Date: 17 July 2024 10:47:43
Attachments: [image.png](#)

Dear scottish,

A Windfarms Team member has replied to your co-ordination request, reference **WF871584** with the following response:

If any details of this proposal change, particularly the disposition or scale of any turbine(s), this clearance will be void and re-evaluation of the proposal will be necessary.

*Please do not reply to this email - the responses are not monitored.
If you need us to investigate further, then please use the link at the end of this response or login to your account for access to your co-ordination requests and responses.*

Dear Amy,

Site Name: *Ayre Offshore Wind Farm - SCOP 0049*

Site Location:

Offshore Scoping Report, Ayre Offshore Wind Farm

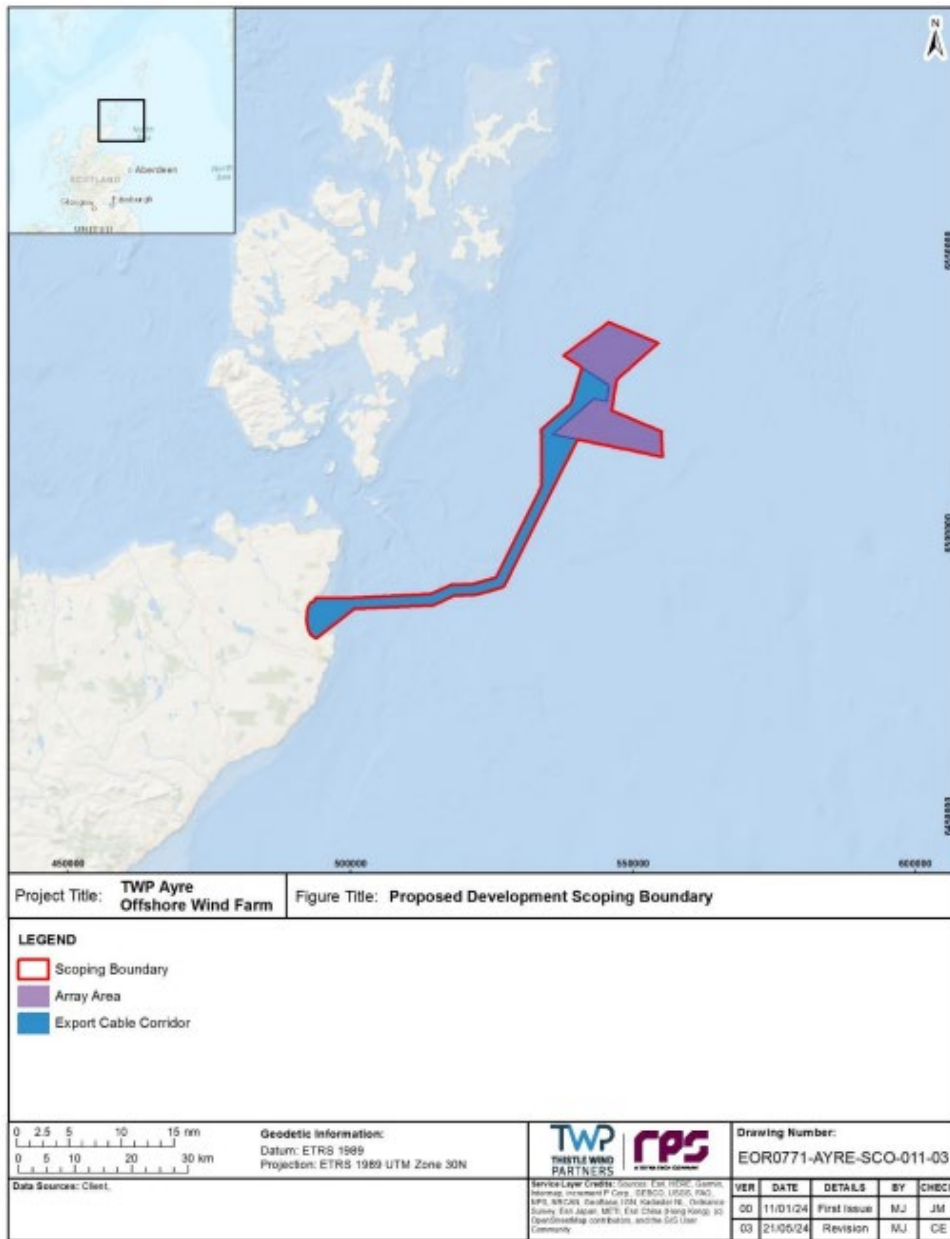


Figure 1.1: Proposed Development Scoping Boundary

Max. Number of Wind Turbines: 67

MaxHub Height: 205.81m Max Rotor Radius: 163m

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.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal. Please note that due to the large number of adjacent radio links in this vicinity, which have been taken into account, clearance is given specifically for a location within the declared grid reference (quoted above).

*This proposal is ***cleared*** - with respect to radio link infrastructure operated by the local energy networks.*

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis. This will negate the possibility of an objection being raised at that time as a consequence of any links assigned between your enquiry and the finalisation of your project.

You are therefore advised to seek re-coordination prior to submitting a planning application (giving precise turbine location data)

JRC offers a range of radio planning and analysis services. If you require any assistance, please contact us by phone or email.

Regards

Wind Farm Team

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Office: REDACTED

JRC Ltd. is a Joint Venture between the Energy Networks Association (on behalf of the UK Energy Industries) and National Grid.

Registered in England & Wales: 2990041

[About The JRC | Joint Radio Company | JRC](#)

We maintain your personal contact details and are compliant with the Data Protection Act 2018 (DPA 2018) for the purpose of 'Legitimate Interest' for communication with you. If you would like to be removed, please contact anita.lad@jrc.co.uk.

We hope this response has sufficiently answered your query.
If not, please **do not send another email** as you will go back to the end of the mail queue, which is not what you or we need. Instead, **reply to this email by clicking on the link below or login to your account** for access to your co-ordination requests and responses.

<https://breeze.jrc.co.uk/tickets/view.php?id=33666>

Maritime and Coastguard Agency ("MCA")



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www.gov.uk/mca

Your Ref: SCOP-0049

Date: 26th July 2024

Via email: MD.MarineRenewables@gov.scot

Dear Amy,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE AYRE OFFSHORE WIND FARM LIMITED (SCOTWIND NE2 SITE) - UNDER THE EIA REGULATIONS.

The MCA has reviewed the scoping report provided by Ayre Offshore Wind Farm Limited as detailed in your correspondence of 4th July 2024 and would like to comment as follows:

The Environmental Impact Report should supply detail on the possible impact on navigational issues for both commercial and recreational craft, specifically:

- Collision Risk.
- Navigational Safety.
- Visual intrusion and noise.
- Risk Management and Emergency response.
- Marking and lighting of site and information to mariners.
- Effect on small craft navigational and communication equipment.
- The risk to drifting recreational craft in adverse weather or tidal conditions.
- The likely squeeze of small craft into the routes of larger commercial vessels.

The development area carries a moderate amount of traffic with several important commercial shipping routes to/from UK ports and the North Sea. Attention needs to be paid to routing, particularly in heavy weather so that vessels can continue to make safe passage without large-scale deviations. The likely cumulative and in combination effects on shipping routes should be considered for this project. It should consider the proximity to other windfarm developments, other infrastructure, and the impact on safe navigable sea room.

A Navigational Risk Assessment will need to be submitted in accordance with MGN 654. This NRA should be accompanied by a detailed MGN 654 Checklist which can be found at <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

A vessel traffic survey to the standard of MGN 654 – at least 28 days which is to include seasonal data (two x 14-day surveys) collected from a vessel-based survey using AIS, radar and visual observations to capture all vessels navigating in the study area has been carried out. However, it is not included in the scoping report. 14.4.14 states that: *‘Summer (15-29 July 2023) and winter (06-21 December 2023) seasonal Vessel Traffic Surveys have been undertaken; however, data was unavailable at time of submission of this Offshore Scoping Report.’* We welcome the explanation and are content with the data presented in the scoping report (as summarised in table 14.1) to inform traffic volumes/routes/types at this stage. We remind the applicant that the MGN 654 compliant data will need to be presented going forward.

We note in section 4.7 that a Cumulative Effects Assessment will be carried out in a tiered system of appraisal. As highlighted, the proximity to other offshore windfarms and infrastructure will need to be fully considered, with an appropriate assessment of the distances between OREI boundaries and shipping routes as per MGN 654. Attention must be paid to the traffic for ensuring the established shipping routes within the North Sea can continue safely without unacceptable deviations.

Attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and subject to the traffic volumes, an anchor penetration study may be necessary. If cable protection measures are required e.g., rock bags or concrete mattresses, the MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum. This will be particularly relevant where depths are decreasing towards shore and potential impacts on navigable water increase, such as at the HDD location.

In paragraph 14.3.2 and Appendix A, table A1.1, number 39, compliance with Regulatory Expectations on Moorings for Floating Wind and Marine Devices (HSE and MCA, 2017) is identified as a designed in mitigation measure for floating infrastructure. This guidance should be followed, and a Third-Party Verification of mooring arrangements will be required.

We note in Section 3.9.1 that: *‘Given the early stage of the Proposed Development details on the assembly and the need for possible wet storage of infrastructure is not known at this stage. There is, however, potential that wet storage may be needed to facilitate construction of the Proposed Development, by the Applicant, or ports and / or technology providers.’* we would like to point out to the applicant that any wet storage solutions should be discussed in consultation with relevant maritime stakeholders including the MCA and Northern Lighthouse Board (NLB). We would also expect the Navigation Risk Assessment to be updated to include the proposals for any wet storage once they are known.

The Development Specification and Layout Plan (DSLPL) referred to in 20.5.1 and Appendix A, table A1.1, number 25, requires MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and Search and Rescue aircraft operating within the site. Any additional navigation safety and/or Search and Rescue requirements, as per MGN 654 Annex 5, will be agreed at the approval stage.

Particular consideration will need to be given to the implications of the site size and location on SAR resources and Emergency Response Co-operation Plans (ERCoP). The report must recognise the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice with Digital Selective Calling (DSC)). A SAR checklist will also need to be completed in consultation with MCA, as per MGN 654 Annex 5 SAR requirements.

MGN 654 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager. Further information can be found in MGN 654 Annex 4 supporting document titled 'Hydrographic Guidelines for Offshore Developers', available on our website: <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>. This includes surveys during the pre-construction, post-construction and post-decommissioning stages. We would like to highlight the need to provide the data in either GSF or CARIS format and that Total Vertical and Horizontal Uncertainty (TVU & THU) calculations must be provided.

As stated in Chapter 3: Project Description, table 3.1 of the report, High Voltage Alternating Current (HVAC) transmission infrastructure is to be used. Therefore, a pre-construction compass deviation study will not be required.

On the understanding that the Shipping and Navigation aspects are undertaken in accordance with MGN 654 and its annexes, along with a completed MGN checklist, MCA is likely to be content with the approach.

Yours faithfully,

REDACTED

Vaughan Jackson
Offshore Renewables Project Lead
UK Technical Services Navigation

MD-SEDD Advice

13th August 2024



E: MD-SEDD-RE_Advice@gov.scot

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13 AUGUST 2024

Scoping Report Ayre Offshore wind farm

Marine Directorate advisers have reviewed the request from MD-LOT and provide the following advice.

Commercial fisheries

MD-SEDD advise that the cumulative effects assessment should take into account any nearby Marine Protected Areas and other fisheries management areas with restricted fishing activity as potential projects that could cause cumulative effects for commercial fisheries.

MD-SEDD recommend that applicants include AIS data provided by EMODNet which gives the amount of time spent by fishing vessels in a location. These can be found via emodnet.ec.europa.eu under “vessel density”, and present averaged data from 2017-2023. These provide a better representation of fishing activity than the AIS route density data presented in the scoping report, as they weight the movement of a vessel through a grid square with how long the vessel has stayed in that square and how much of the square it has covered.

MD-SEDD advise that the Scotmap data should not be relied upon to provide information on



the commercial fisheries baseline for the inshore fleet as it is out of date. MD-SEDD advise that this dataset should be used only to validate information gathered through consultation with local fishers and stakeholders. The heat maps for <12m vessels (2017-2021) available on NMPi are a more up to date source of spatial activity, and MD-SEDD note these have been mentioned in the data sources table.

Physical Processes

The MD-SEDD oceanography advisor has reviewed Chapter 7 (Physical Process) of the Ayre Offshore Wind Farm (OWF) offshore Environmental Impact Assessment (EIA) scoping report, mainly focusing on tidal and water column processes.

MD-SEDD agree with the impacts scoped into the proposed development assessment for physical processes, and the development phases indicated (Table 7.2). Many of the potential impacts are associated with sediment transport, and the scoping report proposes the use of standard modelling tools for the assessment. MD-SEDD consider this approach to be adequate for the proposed development.

The proposed windfarm is in a region of shelf sea that is likely to experience intermittent seasonal stratification, and the potential changes to water column structure including magnitude, timing and extent of seasonal stratification should be considered in the EIA. MD-SEDD note this impact is scoped into the operational development phase and that the scoping report proposes the use of hydrodynamic modelling to conduct an assessment on stratification. MD-SEDD advise that the hydrodynamic model used needs to resolve the vertical water column, e.g. using a 3D or 1D-vertical model.

Water column structure is controlled by competing processes including atmospheric heating, freshwater input and mixing. An offshore windfarm could affect water column mixing by the structures generating turbulent wakes (e.g. Dorrell et al. 2022) and/or by altering the near sea surface wind speeds (e.g. Christiansen et al. 2022). MD-SEDD consider the structure induced mixing is more likely to have near-field effects, whereas the wind speed deficit is likely to have more subtle far-field effects.

MD-SEDD advise the baseline description should include a description of prevailing baseline water column conditions, including the timing of stratification and frontal positions. This

should include the evolution of water column structure through the year (e.g. weekly to monthly temperature, salinity, density profiles) and when typically the region stratifies, and how key parameters change through the year (e.g. surface mixed layer depth and potential energy anomaly).

For baseline characterisation MD-SEDD advise the use of existing 3D ocean model output, e.g. data available from the Copernicus Marine Service or the Scottish Shelf Waters Reanalysis Service (SSW-RS, <https://tinyurl.com/SSW-Reanalysis>), and observational data, to characterise the water column structure within the region throughout the year, paying particular attention to the onset/decay of seasonal stratification and fronts. The timing, extent and magnitude of stratification is naturally variable, and this variability should be described to enable the potential changes due to the wind farm to be assessed against this backdrop.

MD-SEDD advise the EIA investigates whether the potential change in mixing could delay the onset of stratification and what pathways to impact this could have on biological receptors, including primary production and the wider ecosystem. The potential impact of the structures (e.g. Dorrell et al. 2022) and the potential wind-wake impact (e.g. Christiansen et al. 2023) should be assessed, and compared with one-another.

MD-SEDD recognise there is no clear methodology or guidance available on how to assess the impact of wind farm structures or wind deficit on stratification. The use of a 1D vertical model, such as the General Ocean Turbulence Model (GOTM), could be a pragmatic way to model the potential impact of the wind farm structures on mixing. A 1D vertical model would require boundary conditions, and these could be supplied from existing 3D hydrodynamic model data (temperature, salinity, velocities), or potentially from any other hydrodynamic model being used as part of the EIA. An alternative approach is to investigate how turbine structures could change Turbulent Kinetic Energy (TKE) (e.g. Carpenter et al. 2016) and comparing this with background/baseline TKE values. The potential impact of these changes in TKE on the timing of stratification should be included, and whether fronts are likely to be effected.

MD-SEDD recognise there is no pragmatic method, or modelling guidance, available for modelling the potential impact of the wind wake, and therefore suggest that a qualitative assessment be performed using published research findings, e.g. Christiansen et al. (2022).

MD-SEDD advise that changes to mixing have the potential to impact other receptors, such as productivity as well as higher trophic levels, and following the assessment of modelling outlined above, this should also be qualitatively assessed in the EIA.

MD-SEDD advise the potential impact on ncMPAs where fronts are a designated feature should be included.

References

Christiansen, N., Daewel, U., Djath, B., & Schrum, C. (2022). Emergence of Large-Scale Hydrodynamic Structures Due to Atmospheric Offshore Wind Farm Wakes. *Frontiers in Marine Science*, 9. <https://doi.org/10.3389/fmars.2022.818501>

Dorrell, R. M., Lloyd, C. J., Lincoln, B. J., Rippeth, T. P., Taylor, J. R., Caulfield, C. P., Sharples, J., Polton, J. A., Scannell, B. D., Greaves, D. M., Hall, R. A., & Simpson, J. H. (2022). Anthropogenic Mixing in Seasonally Stratified Shelf Seas by Offshore Wind Farm Infrastructure. *Frontiers in Marine Science*, 9. <https://doi.org/10.3389/fmars.2022.830927>

Yours sincerely,

Renewables and Ecology Team

Marine Directorate – Science, Evidence, Data and Digital

MD-SEDD
Advice 22nd July
2024

Ayre Offshore Wind Farm

Marine Analytical Unit (“MAU”) Response **Marine Directorate**

The Ayre Wind Farm Development scoping report includes descriptions of a range of potential impacts. This response focuses only on the assessment of social and economic impacts.

We recommend that a full Socio-Economic Impact Assessment be carried out. We provide general advice on how to deliver this in Annex 1.

1. Overview

1.1. Study areas

We noted that the Orkney Islands and Caithness have been identified as a local study area for tourism. We noted that the economic effects will be assessed at the level of the Scottish and UK economies.

With regards to other socio-economic impacts (demographic changes, housing, etc), although at this stage port location and supply chain hubs have not been defined, the assessment of socio-economic impacts would benefit from the inclusions of a short list of potential epicentres of impact. This can help to define the affected communities, and aid stakeholder engagement and research with local communities.

We note that to overcome the difficulty of identifying potential local study areas, it is suggested in para 18.2.9. to discuss hypothetical areas of impact and undertake analysis using a range of port location scenarios, such as those in rural and urban location. We welcome this suggestion, as it might provide information on the nature and scale of impacts that might affect communities. Scenario mapping, however, should not be viewed as a replacement of primary research with stakeholders, including local communities.

1.2. Consultation, stakeholder engagement, and primary data collection

We noted consultation conducted to date with statutory consultees and the intention to organise public consultation with regards to the project’s onshore and offshore infrastructure (mentioned in section 5.4, page 81).

In addition to this, primary social research is planned through the SOWEC and CES project to assess socio-cultural impacts (mentioned in Table 18.4, page 412). The MAU welcomes developer collaboration for the assessment of socio-economic impacts. The MAU would like to note that it is the responsibility of developers to

ensure that the SEIA includes the results of such analyses, as the MAU will not support signposting to participation in the project as sufficient for the assessment.

Academic research (e.g. Aitken et al 2016; Devine-Wright 2011; Firestone et al 2012; Howell 2018; Jijelava and Vanclay 2028; Langbroek and Vanclay 2012; Vanclay 2020) shows that it is important to involve local communities in social impact assessments and address any concerns communities might have. This decreases the delivery risks for projects. Following this research, we believe that the engagement of stakeholders (including local communities) is very important for the assessment of socio-economic impacts, as these communities might be directly impacted by the development. As described in the Annex 1, we recommend conducting a stakeholder mapping exercise to identify all potential stakeholders who might be affected by the development. These stakeholders need to be engaged for identification and assessment of potential impacts (e.g. creation of a working group with local community councils where magnitude and sensitivity of socio-economic impacts is discussed).

It is important not only to inform members of the general public about the development but also gather their views of how they might be affected (primary data collection). Please note that this approach is important not only for the assessment of socio-cultural impacts, but also other social and economic impacts (e.g. communities' views on potential impacts on employment, housing, local services). We recommend that potential socio-economic impacts are discussed with members of the general public and their assessment is fed into the report.

We believe that engagement and research with communities is proportionate to large infrastructure projects, such as offshore wind farms. Moreover, there are examples¹ of how social research has been implemented in practice by some OWFs.

We encourage the developer to engage trained social researchers with experience in qualitative methods to conduct research and primary data collection with communities to ensure that the social science research methods are designed and executed correctly so that the engagement is delivered in as ethical and meaningful way as possible.

1.3. Data sources

Please use the most up-to-date data sources.

We note the intention to use 2022 Census data for Caithness during the EIA stage.

¹ [Environmental Impact Assessment Report - Volume 1 - West of Orkney Windfarm - West of Hoy, Orkney | Marine Scotland Information](#)

2. Scoping of impacts

2.1. Social impacts

We disagree with scoping out of socio-cultural impacts during the decommissioning phase (mentioned in Table 18.5, page 413). It is important to consider how decommissioning might create a range of impacts, including socio-cultural effects.

2.2. Economic impacts

We broadly agree with the proposed approach for assessing economic impacts, in particular that the assessment will include direct, indirect and induced impacts for all phases of the project. We recommend that the assessment takes into account deadweight, leakage, displacement and substitution, and that sensitivity analysis will be performed to account for risk, uncertainty and optimism bias. Please refer to our guidance shown in Annex 1 for further information.

The scoping report outlines that employment impacts will be assessed at each phase of the project in terms of years of employment and jobs. If it is possible to supply additional information about the types of jobs that are expected to be created (e.g. part-time, full-time, skilled, unskilled etc) and how these compare to the existing jobs in the study area, this will add further depth to the analysis.

We expect to see a detailed description of the methodology used to assess economic impacts in the assessment, including specific details about the methodological approach taken and any key assumptions that underpin any estimates. This may be supplied in a technical annex if necessary.

3. Conclusions

We broadly agree with the proposed approach for assessing economic and social impacts. However, we disagree with the scoping out of socio-cultural impacts during the decommissioning phase. We would like to encourage the developer to conduct more engagement and social research with local communities. We recommend that you employ a social researcher with qualitative research expertise to collect primary data from communities to understand their responses to potential socio-economic changes resulting from the development.

References

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Annex 1: General Advice for Socio-Economic Impact Assessment

Marine Analytical Unit (MAU)

Marine Directorate

December 2023

This document sets out some suggestions for delivering socio-economic impact assessment drawing on the professional expertise of the Marine Analytical Unit (MAU), Marine Directorate.

Section 1. Some general best practice tips

- Take a proportionate approach to SEIA in line with the size and generating capacity of the development
- Consider offshore and onshore components of the development in the same assessment.
- Employ experts to design and carry out the assessment. The relevant expertise would include:
 - Social research and economist training, qualifications and experience
 - Familiarity and experience with appropriate methods for each discipline (including economic appraisal, social research methods such as surveys, sampling, interviews, focus groups and participatory methods)
- Consider potential secondary socio-economic impacts of any changes that affect the other relevant receptor groups covered in the wider EIA e.g. commercial fisheries, cultural heritage and archaeology and visual impacts.
- Include consideration of the cumulative impact of multiple offshore developments.
- Outline the rationale for scoping out impacts that are deemed to be minimal, including any evidence or analysis that has been used. If this is not provided it can be difficult for MAU to understand why impacts have been scoped out and we may suggest scoping them back in.

Section 2. Key components of a Socio-economic Impact Assessment

We set out below what we consider to be the key steps to an assessment. We recommend a combined approach so that social and economic impacts are covered together in the assessment, whilst acknowledging that different methodologies for social and economic impacts assessment are needed at certain stages, and that the two disciplines are distinct.

We wish to highlight the importance of stakeholder engagement throughout the assessment, and the use of social research methods (see Methods Toolkit referenced at the end of this Annex) to gather primary data and first hand perspectives from particular groups and communities that are affected. These are helpful in order to better understand the nature and degree of impacts that might be caused by changes that are expected occur. A change in itself may or may not bring about tangible impact, impacts may vary for different people or be perceived in different ways, are affected by individual values and attitudes, and conditioned by the context.

Stakeholder engagement and data collection can occur at a number of stages in the SEIA process and may involve similar methodologies but there are important differences to note. The primary aims of stakeholder engagement are to inform, consult or involve key stakeholders, and to communicate information and gather feedback. Data collection, in contrast is a more rigorous analytical process involving:

- Setting out a planned methodology in advance with clear objectives of what you wish to achieve through data collection
- Sampling strategies that take account of the demographic variations in the population and the need to include difficult to reach groups
- Robust methods to collect information from people in a neutral and unbiased way
- Awareness of how data will be analysed and reported on to obtain and disseminate robust conclusions
- Taking account of research ethics including informed consent, and data protection requirements under GDPR

The stages below are divided into the activities that we suggest are **before** the developer submits a request for a scoping opinion and those that are done **after** the scoping phase. We recommend an iterative approach which means that steps inform each other, information is built up over time, and some steps may be repeated or done in a different order.

The key steps should include:

Pre-scoping activities

- 1) Getting started:** Employ economist and social research experts and work with them to develop a plan for the SEIA that sets out data requirements, and the proposed social and economic data collection and impact assessment methodologies, timescales, any data protection considerations, risk assessment and ethical issues that might arise from the work.
- 2) Develop a detailed description** of the planned development and consider the project phases where socio-economic impacts might be experienced (covering development, construction, operation and maintenance and decommissioning phases). Start to map out potential socio-economic impacts and initial consideration of areas of impact on land that will need to be covered.
- 3) Initial scoping of impacts:** develop a broad list of potential impacts informed by experts (including social researcher, economist, local representatives from key groups, community stakeholders and others).
- 4) Define potential impact areas on land** taking into account locations and connections between activities. Different types of impacts may be experienced at different geographic levels, some in the area nearest the landfall or the nearest coastline to the development at sea, and others much further away (at Scotland level, UK level and internationally). The geographical scale at which social impacts are experienced may be different for social impacts compared with economic impacts. There may be multiple epicentres from which impacts radiate

including the site of the development, land-based areas such as landfall and grid connections, construction bases and places from which the development is visible. Activities that take place in the sea are also relevant for defining the impact area on land, for example the location of fishing activity and ports where fish are landed. The definition of the impact area will inform which communities and which sectors are included in the assessment and vice versa, so this exercise needs to be done iteratively with step 3, the initial scoping of impacts.

- 5) **Stakeholder mapping** is required to identify all the people, groups and stakeholders who may be affected by the development and is a first step in order to conduct effective stakeholder engagement. This exercise is informed by the definition of the impact area. A broad approach is recommended. Stakeholders are likely to include local communities, businesses, workers, other users of the sea, interest groups, community councils and so on.

Steps 4 and 5 may lead to a change in the list of potential impacts so this will need refined/checked.

- 6) **Stakeholder engagement (with those affected by the development, sea users, communities etc)** is a key requirement of SEIA that is done at different stages of the process. We recommend doing some initial stakeholder engagement before submitting the scoping report. Stakeholder engagement will fulfil a number of requirements:

- **Provide information about the development** so that those who might be affected are able to make an informed judgement about potential impacts
- **Present and refine list of potential impacts based on feedback** - identify impacts that are most relevant and add any additional ones that are identified
- **Collect initial data/ insights from stakeholders** on what potential socio-economic impacts (to be developed later)
- **Build relationships** with the community and key groups affected for later stages of the SEIA process so that they can understand the decisions making process and how they can influence it.

There are many **participatory methodologies** that can be used for effective stakeholder engagement that provide a deliberative space for community discussions.

This stage may also require the setting up of governance structures and a community liaison officer. **Early engagement** with those who might be affected is very important, as is meaningful and inclusive engagement where people feel that they are being listened to and that their feedback will be acted upon. It is important to set out clearly how stakeholder engagement is being done for the SEIA specifically.

- 7) **Gather contextual information** to develop a social and economic profile of the area prior to the development that will help with setting the baseline and impact

prediction, identifying potential industries and communities that might be affected and sources of data that can be used in the assessment. This might include primary data collection using social research methods (such as surveys, interviews, focus groups) as well as desk based analysis (of existing data sets such as fishing data, population data).

Primary data collection may occur alongside participatory activities (e.g. engagement events) but must be done in a rigorous and systematic fashion and the findings should be robustly analysed and incorporated into the SEIA. Impacts that are identified for the other receptors in the wider EIA may also have socio-economic consequences and so it may be important to include these in the SEIA.

8) Produce list of anticipated impacts to be covered in the scoping report

setting out the range of potential impacts that could occur, building on what has already been done using data and insights that have been collected from various activities described above. Details of the methods that have been used should be included to enable Marine Directorate to determine if the analysis is based on a robust and appropriate approach. Justification should be provided for any impacts that are scoped in or out. This could be based on suggestions made by stakeholders and the public during stakeholder engagement or an assessment based on the analysis of primary and secondary data.

It is helpful if the scoping report includes details on the approach to be used for the SEIA including methods for data collection, planned stakeholder engagement activities and data-sets to be used.

Post scoping activities for the SEIA

The scoping opinion will advise on the final list of socio-economic impacts to be assessed in the SEIA. This may require additional data collection/ social research to enable a more rigorous assessment of a narrower set of anticipated impacts. It may also require further stakeholder engagement in order to check the significance of impacts with different groups, and the acceptability of mitigation options.

The data and information that has been collected throughout the scoping phase will be used to conduct steps 9, 10 and 11 below.

9) Conduct baseline analysis to assess the situation in the absence of the development, to provide a point of comparison against which to predict and monitor change. Appropriate social and economic measures should be used for the baseline and cover relevant issues (see section 4 for suggested data sources). Key stakeholders and other interested parties including affected communities and sectors may be aware of baseline data to be included, and this can be explored in the participatory approaches described above. The findings from social research can also be included in the baseline. Note that baseline data can be presented in the scoping report but is also the first stage of the SEIA and so should be included in the SEIA report.

10) Predict impacts and assess their significance (otherwise known as impact appraisal or options appraisal): Through analysis, estimate the social and economic changes and their expected impacts, considering any alternative development options and how significant the impacts might be. This is the core part of the assessment and forms the main part of the assessment report. Different methodologies and both primary and secondary data inform this part of the exercise.

Different phases of the development should be covered (development, construction, operation and maintenance) and also transitions between phases (if relevant).

The knock on socio-economic consequences of impacts in other parts of the EIA assessment should be assessed here, such as the impact on commercial fisheries, and impacts on related industries such as tourism could also be included.

It is important to consider distribution of impacts among different social groups (covering protected quality characteristics, socio-economic groups and geographic area where relevant to do so).

Economic impact appraisal should include consideration of:

- Direct, indirect and induced impacts
- Leakage, displacement and substitution effects
- Deadweight
- Cumulative impacts
- Sensitivity analysis to account for risk, uncertainty and optimism bias

There are a range of methodologies for calculating direct, indirect and induced impacts. These include the appropriate use of multipliers, a local content methodology, stakeholder involvement and expert opinion.

Modelling approaches should be realistic, based on robust data, and avoid over promising the economic impacts.

All prices should be presented in real terms (excluding inflation) and should state which year the prices represent.

11) Development enhancement, mitigation strategy and complete SEIA report.

There may be an opportunity for adaptation or other approaches to mitigate potentially adverse impacts and to maximise positive opportunities. This may include engagement with the community to develop a strategy for enhancing benefits and mitigating against impacts; or development of a Community Benefit Agreement (CBA). Again these activities should be done collaboratively with stakeholders where relevant and appropriate.

The SEIA report should clearly set out the methods used in the assessment, justification for decision made such as scoping certain impacts in or out of the

assessment, and the approach to analysis. The report should cover the baseline analysis and results of the impact prediction or appraisal, and distributional impacts. Social and economic impacts can be set out separately (where this makes sense) and together where they overlap.

It is good practice for the report to be reviewed by the people (i.e. the wider group of stakeholders and communities) who were involved in providing data for its production.

Section 3. Examples of different types of socio-economic impacts

In the literature social and economic impacts are defined in many different ways. Sometimes social and economic impacts are covered separately, whilst other sources refer to socio-economic impacts.

The following table sets out some commonly identified socio-economic impacts.

Examples of Socio-economic Impacts from Glasson 2017²

1. Direct economic:

- GVA
- employment, including employment generation and safeguarding of existing employment;
- characteristics of employment (e.g. skill group);
- labour supply and training; and
- other labour market effects, including wage levels and commuting patterns.

2. Indirect/induced/wider economic/expenditure:

- employees' retail expenditure (induced);
- linked supply chain to main development (indirect);
- labour market pressures;
- wider multiplier effects;
- effects on existing commercial activities (eg tourism; fisheries);
- effects on development potential of area; and

3. Demographic:

- changes in population size; temporary and permanent;
- changes in other population characteristics (e.g. family size, income levels, socio-economic groups); and
- settlement patterns

4. Housing:

- various housing tenure types;

² Glasson J (2017a) "Socio-economic impacts 2: Overview and economic impacts" in Therivel R and Wood G (eds.), *Methods of Environmental and Social Impact Assessment*, Abingdon: Routledge

- public and private;
- house prices and rent / accommodation costs;
- homelessness and other housing problems; and
- personal and property rights, displacement and resettlement

5. Other local services:

- public and private sector;
- educational services;
- health services; social support;
- others (e.g. police, fire, recreation, transport); and
- local authority finances

6. Socio-cultural:

- lifestyles/quality of life;
- gender issues; family structure;
- social problems (e.g. crime, ill-health, deprivation);
- human rights;
- community stress and conflict; integration, cohesion and alienation; and
- community character or image

7. Distributional effects:

Distributional analysis is a term used to describe the assessment of the impact of interventions on different groups in society. Interventions may have different effects on individuals according to their characteristics such as income level or geographical location

- effects on specific groups in society (eg: by virtue of gender, age, religion, language, ethnicity and location); environmental justice

Section 4: Useful Data Sources for Socio-Economic Impact Assessments

Name	Summary	Link to Source
Statistics.gov.scot	Contains a wide range of data by local authority and other geographic breakdowns. Has a search by subject and area option.	statistics.gov.scot
Marine Economic Statistics	Annual economic statistics publication including GVA and employment data for marine economy sectors.	Marine economic statistics - gov.scot (www.gov.scot)

Scottish Sea Fisheries Statistics	Provides data on the tonnage and value of all landings of sea fish and shellfish by Scottish vessels, all landings into Scotland, the rest of the UK and abroad, and the size and structure of the Scottish fishing fleet and employment on Scottish vessels.	Sea fisheries statistics - gov.scot (www.gov.scot)
Scottish Shellfish Farm Production Survey 2022	Statistics on employment, production and value of shellfish from Scottish shellfish farms.	Scottish Shellfish Farm Production Survey 2022 - gov.scot (www.gov.scot)
Scottish Annual Business Statistics 2020	Scottish Annual Business Statistics (SABS) presents estimates of employment, turnover, purchases, Gross Value Added and labour costs. Data are provided for businesses that operate in Scotland. Data are classified according to the industry sector, location and ownership of the business.	Scottish Annual Business Statistics 2020 - gov.scot (www.gov.scot)
Sub-Scotland Economic Statistics Database	The Sub-Scotland Economic Statistics Database provides economic, business, labour market and population data for Scotland, and areas within Scotland.	Sub-Scotland Economic Statistics Database - gov.scot (www.gov.scot)
Nomis Official Labour Market Statistics	Labour market statistics including data on employment, unemployment, qualifications, earnings etc.	Nomis - Official Labour Market Statistics (nomisweb.co.uk)
Economics of the UK Fishing Fleet 2020	Economic estimates at UK, home nation and fleet segment level for the UK fishing fleet. The estimates are calculated based on samples of fishing costs and earnings gathered by Seafish as part of the 2020 Annual Fleet Economic Survey.	Economics of the UK Fishing Fleet 2020 — Seafish
Scotland's Census, National Records of Scotland	Census data that provides information about the characteristics of people and households in the country.	Scotland's Census National Records of Scotland (nrscotland.gov.uk)

Scottish Index of Multiple Deprivation	Collection of documents relating to the Scottish Index of Multiple Deprivation - a tool for identifying areas with relatively high levels of deprivation.	Scottish Index of Multiple Deprivation 2020 - gov.scot (www.gov.scot)
The Green Book	HM Treasury guidance on how to appraise and evaluation policies, projects and programmes.	The Green Book: appraisal and evaluation in central government - GOV.UK (www.gov.uk)
The Magenta Book	HM Treasury guidance on evaluation. Chapter 4 provides specific guidance on data collection, data access and data linking.	The Magenta Book - GOV.UK (www.gov.uk)
Enabling a Natural Capital Approach (ENCA)	Supplementary guidance to The Green Book. ENCA resources include data, guidance and tools to help understand natural capital and know how to take it into account.	Enabling a Natural Capital Approach (ENCA) - GOV.UK (www.gov.uk)

Section 5: Further sources of guidance:

HM Treasury guidance on how to appraise and evaluate policies, projects and programmes: [The Green Book: appraisal and evaluation in central government](http://www.gov.uk)

Best practice in Social Impact Assessment according to the International Association for Impact Assessment: [Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects](http://www.iaia.org)

The project A two way Conversation with the People of Scotland on the Social Impacts of Offshore Renewables (CORR/5536) has developed elements of a conceptual framework on social values that can be used to support and inform existing processes for assessing the potential social impacts of offshore renewables plans: [Offshore renewables - social impact: two way conversation with the people of Scotland](http://www.gov.scot)

Best practice guidance for assessing the socio-economic impacts of OWF developments: [Guidance on assessing the socio-economic impacts of offshore wind farms \(OWFs\)](http://www.gov.uk)

[A toolkit of methods available to assist developers, consultants, and researchers carrying out socio-economic impact assessments: Methods Toolkit for Participatory Engagement and Social Research - gov.scot \(www.gov.scot\)](http://www.gov.scot)

**Ministry of Defence
("MOD")**



Defence Infrastructure Organisation

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Amy Woodward
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20 September 2024

Dear Amy,

**REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017
REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2007
REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017 (collectively referred to as the "EIA Regulations").**

**SCOP-0049 – Thistle Wind Partners Limited – Ayre Offshore Wind Farm – Scotwind NE2 Site – Approximately
22 km from Orkney**

Thank you for consulting the Ministry of Defence (MOD) on the above detailed Scoping Opinion request made in respect of the Ayre Offshore Wind Farm development.

I write to confirm the safeguarding position of the MOD with respect to the Scoping Report that has been submitted (Ayre Offshore Wind Farm Offshore Scoping Report dated 13 June 2024, Reference: TWP-AYR-RPS-OFC-RPT-00031 / FINAL).

The Defence Infrastructure Organisation (DIO) Safeguarding Team represents the MOD as a consultee in UK planning and energy consenting systems to ensure that development does not compromise or degrade the operation of defence sites such as aerodromes, explosives storage sites, air weapon ranges, technical sites or maritime defence assets and interests.

The development will comprise of up to 67 wind turbines (either fixed and/or floating) up to 368.81m height (to blade tip) above Lowest Astronomical Tide (LAT) that will be located approximately 22 km east of the Orkney coast. In addition to the turbine structures there will be wind turbine foundations (floating, including associated moorings and anchoring systems or fixed bottom); Offshore Substation Platforms (OSPs); OSP foundations (fixed bottom); Offshore cables (Inter-Array Cables (IAC), Interconnector Cables, and Offshore Export Cables); Subsea Collectors (SC); and, scour protection, cable protection and utility crossings. The onshore components of the project will be subject to a separate application.

The MOD has assessed the location and scale of the offshore element of the development scheme proposed, including the proposed cable route to make landfall.

Air Traffic Control and Air Defence Radars

Chapter 15 Aviation and Radar covers military aviation. The use of airspace in the vicinity of the proposed development for defence purposes has been appropriately identified. The Scoping Report highlights some of the aviation systems that may be affected by the proposed wind farm Section 15.11.4 identifies the MOD as a relevant aviation stakeholder.

Paragraph 15.4.6 references the MOD's Air Traffic Control (ATC) and Air Defence (AD) Radars and have identified relevant receptors that will need to be assessed.

Military Low Flying Training

The potential for the development to create physical obstructions to military low flying activities is acknowledged within Chapter 15 Aviation and Radar. Paragraph 15.11.6 identifies military low flying activities occur within defined Military Low Flying Areas (LFA).

The applicant will need to take account of military low flying training activities that are conducted in this area.

At paragraph 15.11.6 the applicant has identified the necessity for the proposed offshore turbines to be fitted with aviation lighting. In implementing this, the applicant will need to ensure that MOD's lighting requirements are accounted for.

The principal development zone for the offshore windfarm outlined in the submission will be located within MOD Danger Areas D809 North and D809 Central. The extent of MOD Practise and Exercise Areas in the locality have been accurately identified in the scoping report (ref. Section 17.3.23). The defence activities conducted in this Danger Area complex will need to be taken into account in the preparation of this development proposal.

In progressing this development proposal, the applicant should also take into account the potential effects that vessels, barges, platforms and associated traffic that will need to be present in the Danger Area complex during the construction and decommissioning phases may have upon the military training activities that can be conducted in Danger Area 809 North and D809 Central. In addition, the potential impacts of vessels that need to occupy the Danger Area complex to undertake any maintenance of the development, once it became operational, will also need to be taken into account. .

The MOD therefore has concerns with the proposed development of the Ayre Offshore Wind Farm due to the potential impact upon Danger Areas D809 North and D809 Central. This will need to be taken into account in the progression of this development proposal. The MOD wishes to be consulted on all subsequent submissions relating to this proposed development.

I trust this adequately explains our position on this matter.

Yours sincerely,

REDACTED

Stefany Alves Veronese
Assistant Safeguarding Manager

Natural England

Date: 18 July 2024
Our ref: 481308
Your ref: scop0049



Scottish Government,
Victoria Quay,
Edinburgh,
EH6 6QQ

Lancaster House
Hampshire Court
Newcastle-upon-Tyne
NE4 7YH

BY EMAIL ONLY

T 0300 060 3900

Dear Amy

Environmental Impact Assessment Scoping

- Regulation 14 of the marine works (environmental impact assessment) (Scotland) regulations 2017
- Regulation 13 and schedule 4 of the marine works (environmental impact assessment) (Scotland) regulations 2007
- Regulation 12 of the electricity works (environmental impact assessment) (Scotland) regulations 2017

SCOP-0049 – Thistle Wind Partners Limited – Ayre Offshore Wind Farm – Scotwind NE2 Site

Location: 22 km from Orkney

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in your consultation which we received on 04 July 2024.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The advice contained within this letter is provided by Natural England, which is the statutory nature conservation body within English territorial waters (0-12 nautical miles). As the application is located in Scottish waters, advice from NatureScot, the statutory nature conservation body in Scotland should be sought.

Having considered the location and scale of the Ayre windfarm, we conclude that the project is unlikely to significantly impact any species from English designated sites. We do not expect a requirement to provide further comments or advice on this project unless the project changes substantially.

For any queries relating to the specific advice in this letter only please contact me using the details below. For any new consultations, or to provide further information on this consultation please send your correspondence to consultations@naturalengland.org.uk.

Yours sincerely

Ruth Cantrell
Marine Senior Officer
E-mail: REDACTED
Telephone: REDACTED

NatureScot

Amy Woodward
Marine Licensing Casework Officer
Marine Directorate - Licensing Operations Team
Scottish Government – Victoria Quay
Edinburgh
EH6 6QQ

15 August 2024

Our ref: CNS / REN / OSWF / NE2 –
Ayre – Pre-application

By email only: ms.marinerenewables@gov.scot

Dear Amy,

Ayre Offshore Wind Farm – ScotWind NE2

NatureScot advice on the Environmental Impact Assessment (EIA) Scoping Report

Thank you for consulting NatureScot on the EIA Scoping Report for the Ayre Offshore Wind Farm array area and Export Cable Corridor (ECC).

Our advice on the natural heritage interests to be addressed within the Environmental Impact Assessment Report (EIA Report) is outlined below.

Policy context

We are currently facing two crises, that of climate change and biodiversity loss and as the Scottish Government's adviser on nature, our work seeks to inspire, enthuse and influence others to manage our natural resources sustainably. We recognise that this proposed development is a lease awarded through the ScotWind process in an area identified through the Sectoral Marine Plan process for Offshore Wind.

We seek to provide advice that is enabling and secures the right development in the right place with most benefit for climate change reduction and that which avoids damage, and where possible, achieves enhancement and restoration of biodiversity.

Proposed development

The Ayre Offshore Wind Farm is sited approximately 22km offshore to the east of Orkney, covering a seabed area of approximately 200km².

The proposed development uses a project design envelope approach¹ and comprises of:

- Up to 67 wind turbine generators (WTGs) with an unstated generating capacity.
- WTGs will use either floating or fixed foundations.
- For floating foundations, preferred options include tension-leg platform or semi-submersible. Anchoring systems considered include drag embedment, driven pile, suction pile, drilled pile, suction embedment plate anchor, drilled-and-grouted rock anchor, vertically loaded anchor, or gravity blocks. Mooring lines considered include semi-taut, catenary, vertical and tilted tendons.
- For fixed foundations, these include piled and/or drilled jacket foundations, or suction bucket jacket foundations.
- A maximum blade tip height of 368.81m (above Lowest Astronomical Tide, LAT) and a maximum rotor blade diameter of 326m.
- Up to three Offshore Substation Platforms (OSPs) with jacket piled (fixed) foundations.
- Between 16 and 20 Subsea Collectors (SCs) with a height of 6m from the seabed to connect WTGs in clusters to the OSP.
- Inter-array cabling total length of 185km with a burial depth of 1-3m. Dynamic inter-array cabling may be required where floating foundations are used.
- Up to three interconnector cables, with a maximum total length of 60km.
- Up to four offshore export cables with a total cable length of 360km, 6km wide trench and a target cable burial depth between 1-3m.
- Cable protection to include concrete mattresses, rock placement, grout or rock bags, rock berms, or protective sleeves. Utility crossings may also be required.
- Landfall at Sinclair's Bay, Caithness.
- Cables installed at landfall using open cut trenching installation or trenchless techniques (e.g. horizontal directional drilling).

Priority Marine Features (PMFs)

Whilst there is no data that directly overlaps with the proposed development itself, various Priority Marine Features (PMFs) have been recorded in adjacent areas, including within the physical processes and benthic ecology study areas. Additionally, the study areas overlap with the following potential PMF management areas:

- Papa Westray – seagrass beds, maerl beds
- Orkney Sounds and Firths (north) – maerl beds, seagrass beds, horse mussel beds
- Orkney Sounds and Firths (south) – maerl beds, seagrass beds, horse mussel beds
- Copinsay – horse mussel beds
- Widewall Bay – seagrass beds

The potential PMF management areas listed above have been identified for fishery management measures due to the presence of the associated PMFs, highlighting the importance of these areas. We will continue to engage on this proposed development as it goes through the application process, but we request further consideration of PMFs and possible impact pathways in the EIA Report.

¹ <https://www.gov.scot/publications/guidance-applicants-using-design-envelope-applications-under-section-36-electricity-act-1989/>

Content of the EIA Scoping Report

We are generally content with the format of the EIA Scoping Report, which is well laid out, easy to navigate and read.

Assessment approach

The EIA Report should consider the impact of all phases of the proposed development on the receiving environment, including effects from pre-construction activities as well as the construction, operation and maintenance and decommissioning phases. We recommend that the following aspects are considered further and included in the EIA Report.

Baseline characterisation

We recommend submission of the baseline characterisation Digital Aerial Survey (DAS) report during the pre-application stage rather than waiting until the application. This will enable any issues to be discussed and resolved in a timely manner.

Ecosystem assessment

Increasingly, there is a need to understand potential impacts holistically at a wider ecosystem scale in addition to the standard set of discrete individual receptor assessments. This assessment should focus on potential impacts across predator prey interactions. This will enable a better understanding of the consequences (positive or negative) of any potential changes in prey distribution and abundance from the proposed development on bird and mammal (and other top predator) interests and what influence this may have on population level impacts.

Climate change and carbon costs

The impact of climate change effects should be considered, both in futureproofing the project design and how certain climate stressors may work in combination with potential effects from the proposed wind farm. The EIA Report should also consider the carbon cost of the wind farm (including supply chain) and to what extent this is offset through the production of green energy. We recognise that some aspects of this are addressed in Section 22 (Climate Change).

Blue carbon

In addition to the climate change assessments outlined in Section 22 of the EIA Scoping Report, we recommend that consideration is given to impacts on blue carbon and whether an assessment can be undertaken. This should expand on the information and assessment conducted for benthic ecology to focus on the potential impacts of the proposed development on marine sediments and coastal habitats. We recognise that some aspects of this are addressed in Section 22.

Wet storage

Section 3.9 indicates that there may be a need for wet storage. However, this is not discussed in Section 12 (Offshore Ornithology) of the main Scoping Report and specific requirements and potential wet storage locations are not provided.

Wet storage could represent a significant impact, therefore consideration of the potential impacts on all receptors needs to be addressed, including cumulative impacts. However, it is unclear whether this should form part of the EIA Report for this application or should be considered as an aspect related to the relevant port and harbour expansion considerations. We are aware that Marine Directorate are currently considering consenting routes and processes around the

activities associated with both the construction and maintenance phases and requirements to assemble, maintain and store components away from the array area. We would welcome further discussion on this when further details are available, to help inform our advice going forward.

Mitigation

We welcome the identification of “embedded mitigation measures” described as outlined in each of the relevant receptor chapters of the EIA Scoping Report and summarised in Appendix A (Draft Schedule of Mitigation and Commitments).

However, much of the embedded mitigation detailed throughout includes the development of and adherence to post-consent plans/programmes. Plans do not strictly constitute mitigation – it is the measures contained within the plan that will mitigate impacts. The EIA Report must clearly articulate those mitigation measures that are informed by the EIA (or HRA) and are necessary to avoid or reduce predicted significant adverse environmental effects of the proposed development. We advise that the full range of mitigation and monitoring measures, and published guidance, are considered and discussed in the EIA Report.

Cumulative impact assessment

Section 4.7 of the Scoping Report outlines the proposed approach to cumulative effects assessment. Paragraph 4.7.9 indicates that where likely significant effects for the proposed development alone are assessed as negligible, these will not be considered within the cumulative effects assessment. However, as discussed in the Ayre Scoping Workshop (held 6th March 2024) and raised in our post Scoping Workshop advice (dated 30th April 2024), we advise that project alone impacts could be deemed negligible, but when combined with others, the overall magnitude could be greater and therefore result in a cumulative effect. As such, further consideration should be given to negligible project alone impacts in the cumulative effects assessment.

Additionally, we are concerned with the likelihood of multiple offshore export cables, including proposed interconnectors, making landfall between Orkney and the mainland and the potential for cumulative impacts arising from construction and associated geophysical, geotechnical and environmental survey programmes. Therefore, we recommend that this is considered further. We have previously raised the need for strategic consideration by both Scottish Government (Offshore Wind and Marine Directorates) and the Electricity System Operator (ESO) for the consideration of interconnector management in Scottish waters to avoid marine and coastal spatial squeeze.

Environmental Impact Assessment Report (EIA Report)

The EIA Report provides the assessment to support the application and should be suitability structured, with appropriate formatting, sufficient information with limited repetition to ensure it can be reviewed efficiently and effectively. Consideration should therefore be given to the following aspects:

- It should clearly follow the direction provided in the Scoping Opinion, or where specific agreement was later reached during the pre-application process. Any divergence from this needs to be laid out separately and must be fully justified.
- Consideration should be given to the volume and flow of information within and across each receptor chapter and associated technical appendices. The flow of information relating to impact pathway, assessment and conclusions should be concise, but not omit key information on steps taken. Repeated duplication of text should be avoided through appropriate structuring.
- In electronic versions of the EIA Report, navigational aids including use of hyperlinks etc. are required, particularly where there are supporting technical appendices to any chapters.

- Each stage of the assessment process should be sufficiently transparent to allow the assessments to be repeated. Where specific tools have been used, details of which version and when the assessment was carried out is required.

Habitats Regulations Appraisal (HRA)

We note that we will be consulted on the HRA Screening Report separately, subsequent to the Scoping Report consultation.

Positive Effects for Biodiversity / Biodiversity Net Gain

We recommend early consideration of potential inclusion of positive effects for biodiversity as well as nature inclusive design. Whilst it is not a policy requirement, as part of the need to address both the climate and biodiversity crises, we encourage developers to consider this as part of their application.

Natural Heritage interests to be considered

We provide advice as detailed below within receptor-specific technical appendices for key natural heritage interests to be considered in the EIA Report:

- Advice on physical processes is provided in **Appendix A**.
- Advice on benthic ecology is provided in **Appendix B**.
- Advice on fish and shellfish ecology is provided in **Appendix C**. (Noting that for diadromous fish we have limited our advice to the requirements for these to be considered as part of the EIA Report only – further advice is contained within the appendix).
- Advice on marine mammals is provided in **Appendix D**.
- Advice on ornithology is provided in **Appendix E**.

For the following receptor, we advise:

- Seascape, Landscape Character and Visual Impact assessment (SLVIA) – in our post Scoping Workshop advice (issued 30th April 2024), we requested an initial wireline from the Hoy and West Mainland NSA, ideally from the east coast of Hoy, to enable us to advise on whether this viewpoint would need to be included or can be scoped out from the EIA Report. This has not been provided. Therefore, **we reiterate our request for this initial wireline** as further engagement is required prior to application submission around this point. Otherwise, we are content with what is proposed for SLVIA as per Section 20 and have no other comments.
- Bats – in our post Scoping Workshop advice (issued 30th April 2024), we advised that *Nathusius' pipistrelle* bats will need to be considered under EIA for the Offshore Project. We were further consulted on this (dated 2nd August 2024), with Ayre proposing not to include *Nathusius' pipistrelle* bats in the offshore EIA Report “*as it is unlikely there will be significant effects resulting from the project on bats*”. Our position remains unchanged, namely that *Nathusius' pipistrelle* bats should be considered within the EIA Report. Photographs from Beatrice OWF captured the migration of *Nathusius' pipistrelle* bats and a single dead bat was also recorded at Neart na Gaoithe OWF further down the east coast. Moreover, there have been additional sightings at oil and gas platforms in Scottish waters. These sightings are likely an underestimate as they are incidental, rather than from active monitoring. We note the applicant’s disagreement with our advice to include *Nathusius' pipistrelle* bats in the EIA Report. However, we agree with their suggestion that a more

strategic approach to understand the migratory behaviour of this species would be useful. As such, **we would welcome further discussions with Ayre and other developers to discuss potential funding and collaboration with ScotMER.** In addition to our advice here, we intend to respond to the consultation dated 2nd August separately, though our position will remain unchanged.

Further information and advice

We hope this advice is of assistance to help inform the Scoping Opinion, noting that there may be aspects where some further engagement is required to assist in preparing the EIA Report.

Please contact me in the first instance for any further advice, using the contact details below, copying to our marine energy mailbox – marineenergy@nature.scot.

Yours sincerely,

Caitlin Cunningham

Marine Sustainability Adviser – Sustainable Coasts and Seas

REDACTED

NatureScot advice on EIA Scoping Report for the Ayre Offshore Wind Farm

Appendix A – Physical Processes

Physical processes are considered in Section 7 of the EIA Scoping Report.

Study area

The study area is based on several elements: one spring tidal ellipse buffer (suspended sediment plumes); cell boundaries (littoral transport); expert judgement / evidence base (wave blockage). This aligns with what was presented at the Scoping Workshop and we are therefore content with the study area proposed.

Baseline characterisation

Key data sources are provided in Table 7.1 and we are content with those listed. Please note that Hansom et al. (2017) was an output of Dynamic Coast phase 1. In 2021 this was superseded by phase 2 outputs, including new [reports](#) and [webmapping](#) of coastal change, which should be a data source for the EIA.

Designated sites

Figure 7.1 shows the designated sites within proximity to the proposed development, and we note that whilst no sites overlap with the array area or ECC, various sites are within the physical processes study area. It would have been useful to see this presented as a list, with narrative provided for each site.

The approach outlined in Paragraph 7.4.20 states that *“At all sites, changes to the physical characteristics of these sites have the potential to impact the habitats they support and, therefore, consideration is given to them in the marine physical processes assessment.”* We welcome this approach, especially for sites such as Noss Head MPA, whereby indirect impacts may arise on the horse mussel beds from increases to suspended sediment concentration and changes in physical processes.

Impact pathways

The potential impacts proposed to be scoped for physical processes are summarised in Table 7.2. No impacts to physical processes receptors or pathways have been scoped out at this stage, due to the potential for pathway changes to impact on other topic receptors.

During the Scoping Workshop, we advised that the potential re-exposure of a trenched cable(s) at landfall(s) should be assessed as an additional operational impact, especially given the anticipated increases in rates and extent of erosional retreat at the coast due to accelerating sea-level rise. This is to reduce any potential need for future hard engineering, which could in turn disrupt coastal processes. This is briefly mentioned in Table 5.2 (Summary of the Scoping Workshop); however, it is not included within Table 7.2. We advise again that this operational impact should be separately assessed in the EIA.

In addition to seabed scouring being scoped in for the potential settings mentioned, the assessment should also consider potential secondary scour from scour protection itself.

Approach to assessment

Definitions of Magnitude and Sensitivity for the Marine and Coastal Processes impact assessment should be provided at this Scoping stage rather than waiting till in the EIA Report. This is important to avoid potential disagreement over assessment undertaken.

In Paragraph 7.7.2, we welcome the acknowledgment that *“potential changes assessed in the physical processes section of the Offshore EIA Report may not themselves be significant, it may be the case that they have potential to cause significant impacts to other EIA topic receptors.”* Similarly, we welcome the recognition that physical processes can be both pathways and receptors and we are content with the two receptors identified at 7.7.3. Furthermore, Section 7.8 discusses potential interrelated effects, whereby information on physical processes will be used to inform other receptors – we support this approach.

A combination of analytical methods is proposed to assess the potential changes to physical processes. Whilst we are content with what is proposed, we highlight the recent consultation on the Physical Processes Modelling Method Statement (NatureScot advice issued 11 July 2024), which provided more detail with respect to the modelling proposed. This detail is not replicated within the Scoping Report.

Cumulative assessment

Section 7.9 discusses potential cumulative effects. The following impacts are proposed to be included in the cumulative effects assessment: sediment plumes / increases in suspended sediment concentrations; and changes to waves, tides and sediment transport. We are content with what is proposed.

Mitigation and monitoring

We welcome the identification of embedded mitigation described in Section 7.5 and summarised in Appendix A (Draft Schedule of Mitigation and Commitments).

However, much of the embedded mitigation detailed throughout includes the development and adherence to post-consent plans/programmes. Plans do not strictly constitute mitigation; as it's the measures contained within the plan that will mitigate impacts. The EIA Report must clearly articulate those mitigation measures that are informed by the EIA and are necessary to avoid or reduce predicted significant adverse environmental effects of the proposed development. We advise that the full range of mitigation and monitoring measures, and published guidance, are considered and discussed in the EIA Report.

Transboundary impacts

Potential transboundary impacts are discussed in Section 7.10 and also in Appendix B (Transboundary Screening). We agree that transboundary impacts can be scoped out from further consideration.

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Appendix B – Benthic Ecology

Benthic ecology interests are considered in Section 9 of the EIA Scoping Report.

Study area

The local study area is defined as the array area and Export Cable Corridor (ECC) plus a buffer of one spring tidal eclipse, which ranges from 2 to 13km. A regional study area is also proposed, which extends further into the northern North Sea, informed by the Sectoral Marine Plan North-East Region. We are content with what is proposed.

Baseline characterisation

We are content with the proposed data sources and guidance documents, as per section 9.3.

Site-specific surveys

However, we note that results from the site-specific subtidal survey are not yet available. Whilst we are content with the general approach suggested for outcomes from the surveys to be incorporated into the EIA Report, if there are any unexpected survey results (e.g. new sensitive habitat identified), we recommend further engagement prior to application submission.

Additionally, we have reviewed Appendix E (Intertidal Survey Report) and are content that the recommended methods have been followed. We note that the survey only covered a small part of the shoreline within the ECC boundary (Figure E1.1). It would be useful to better understand if this is due to refinement of the landfall area within the ECC boundary and if so, why the ECC boundary is not narrower at the coast to reflect this. If this is not the case, it would be helpful to include additional narrative on the intertidal survey results explaining why only a small section of the ECC boundary was surveyed and whether further surveys of other areas within the ECC boundary are planned.

Designated sites

Paragraphs 9.4.10 to 9.4.15 discuss designated sites and protected features. Additionally, Appendix D (MPA Screening) includes the Noss Head MPA, which we agree should be screened in, as it is within the potential Zone of Influence of impacts, such as suspended sediment concentrations, associated deposition and changes to physical processes.

Potential impacts

Scoping of impacts are discussed in Section 9.6 and we are broadly content with what is proposed. Under the electromagnetic fields (EMF) impact, only unburied cables are included. However, we advise that EMF should be scoped in for all cabling as burial will not completely remove the possibility of EMF effects on infaunal and epifaunal species. Burial will reduce the level of EMF at the seabed surface, but this could still result in biologically meaningful levels, thereby potentially impacting benthic species.

Approach to assessment

We are broadly content with the approach to assessment for benthic ecology as per Section 9.7. However, the following document is missing from the list of guidance:

- Pearce, B. and Kimber, J. (2020). The Status of *Sabellaria spinulosa* Reef off the Moray Firth and Aberdeenshire Coasts and Guidance for Conservation of the Species off the Scottish East Coast. Scottish Marine and Freshwater Science. Vol 11, No 17, 100pp.

Cumulative impacts

With the proposed number of offshore wind developments in Scottish waters, we are noting the tendency for developers to indicate no LSE from EMF impacts from a cumulative basis. However, we are concerned that the spatial and temporal scale is not being considered cumulatively across the network of cables, including those outwith the proposed development. Thus, we advise that EMF impacts are considered in the cumulative assessment.

Mitigation and monitoring

We welcome the identification of embedded mitigation described in Section 9.5 and summarised in Appendix A (Draft Schedule of Mitigation and Commitments).

However, much of the embedded mitigation detailed includes the development and adherence to post-consent plans/programmes. Plans do not strictly constitute mitigation; as it's the measures contained within the plan that will mitigate impacts. The EIA Report must clearly articulate those mitigation measures that are informed by the EIA and are necessary to avoid or reduce predicted significant adverse environmental effects of the proposed development. We advise that the full range of mitigation and monitoring measures, and published guidance, are considered and discussed in the EIA Report.

For instance, we would expect micrositing infrastructure to avoid key species / habitats would be included in the embedded mitigation section. However, we acknowledge that the embedded mitigation commitment to "*Achieve appropriate design and layout of Wind Turbines within the Array Area*" may incorporate this measure, although micrositing would also be relevant for the ECC.

Transboundary impacts

Potential transboundary impacts are discussed in Section 9.10 and also in Appendix B (Transboundary Screening). We agree that transboundary impacts can be scoped out from further consideration.

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Appendix C – Fish and Shellfish Ecology

Fish and shellfish interests are considered in Section 10 of the EIA Scoping Report, with subsea noise considered in Section 8.

Study area

The study area is defined as a 100km buffer around the proposed development, which includes the offshore Export Cable Corridor (ECC). The study area is large, including all of Orkney, North Coast and the Moray Firth. We are content that this study area will cover all potential impacts for fish and shellfish receptors.

Baseline characterisation

Key data sources are provided in Table 10.1 and we are content with those listed.

For basking shark, we recommend including the following data sources:

- Witt, M.J., Hardy, T., Johnson, L., McClellan, C.M., Pikesley, S.K., Ranger, S., Richardson, P.B., Solandt, J.L., Speedie, C., Williams, R., Godley, B.J. (2012). Basking sharks in the northeast Atlantic: spatio-temporal trends from sightings in UK waters. *Marine Ecology Progress Series* 459:121-134.
- Witt, M.J., Doherty, P.D., Godley, B.J. Graham, R.T. Hawkes, L.A. & Henderson, S.M. (2014). Basking shark satellite tagging project: insights into basking shark (*Cetorhinus maximus*) movement, distribution and behaviour using satellite telemetry (Phase 1, July 2014). Scottish Natural Heritage Commissioned Report No. 752.
- Witt, M.J., Doherty, P.D., Godley, B.J. Graham, R.T. Hawkes, L.A. & Henderson, S.M. (2016). Basking shark satellite tagging project: insights into basking shark (*Cetorhinus maximus*) movement, distribution and behaviour using satellite telemetry. Final Report. Scottish Natural Heritage Commissioned Report No. 908.
- Austin, R.A, Hawkes, L.A, Doherty, P.D, Henderson, S.M, Inger, R, Johnson, L, Pikesley, S.K, Solandt, J-L, Speedie, C, Witt, M.J. (2019). Predicting habitat suitability for basking sharks (*Cetorhinus maximus*) in UK waters using ensemble ecological niche modelling. *Journal of Sea Research*, Volume 153, 101767, ISSN 1385-1101.
- Pikesley, S.K., Carruthers, M., Hawkes, L.A. and Witt, M.J. 2024. Analysis of Basking Shark Watch Database 1987 to 2020. NatureScot Research Report 1279.

Receptors

Paragraphs 10.4.2 to 10.4.10 indicate the typical species expected in the North Sea, including marine fish, diadromous fish and commercial shellfish, with maps of spawning/nursery grounds included for commercial fish species also. Shellfish such as blue mussel, horse mussel and ocean quahog are covered in the benthic ecology chapter, which we accept. In addition, Paragraph 10.4.11 indicates the species recorded through site-specific DAS.

The results of the site-specific benthic ecology surveys are not presented in the Scoping Report, instead, data from other offshore wind farm projects within the study area are used to provide evidence for likely species present. Once analysed, if the site-specific benthic ecology survey data indicates other species are present, then we advise that these additional species are included in

the EIA Report. Benthic ecology survey sampling should be used to determine suitable sandeel habitat and/or herring spawning habitat.

Basking shark are briefly discussed in Appendix C (Subsea Noise Modelling Method Statement) but there is no discussion within the baseline characterisation in either fish and shellfish or marine mammals. As raised in our post Scoping Workshop advice (issued 30th April 2024), we would expect to see further consideration of basking shark and potential impact pathways within the Scoping Report and it is disappointing that this has been missed.

Designated sites

Paragraph 10.4.18 discusses designated sites – nine sites with fish and/or shellfish qualifying species are located within the study area. This includes the North-West Orkney MPA designated for sandeel and various SACs designated for diadromous fish and/or freshwater pearl mussel.

The North-West Orkney MPA is located 55.2km from the Scoping boundary, within the 100km buffer for subsea noise. Appendix D (Marine Protected Area Screening), concludes that underwater noise will not be capable of affecting (other than insignificantly) the qualifying sandeel species of the MPA and is therefore proposed to be screened out. However, we note that underwater noise modelling is still to be undertaken and we consider it premature to scope out effects on the North-West Orkney MPA at this stage.

We note that a HRA Screening Report will be submitted separately, which will consider SACs. However, we raise that diadromous fish species should be assessed through EIA only and not through HRA.

Impact pathways

The potential impacts proposed to be scoped in and out for fish and shellfish are summarised in Tables 10.6 and 10.7, respectively and we are content with what is proposed.

Approach to assessment

We are generally content with the approach to assessment for fish ecology, with further comments below.

Underwater noise modelling

Section 8 and Appendix C (Subsea Noise Modelling Method Statement) discuss the approach to underwater noise modelling. We note that underwater noise modelling will be based on the impact thresholds reported in Popper et al. (2014). Table C1.7 shows swim speeds of marine mammals and fish species. We agree that most fish will flee from disturbance, however, if sandeel habitat or spawning herring grounds are identified, we recommend that these are assessed as stationary.

Changes in prey availability

Potential interrelated effects are briefly discussed in Section 10.8, which mentions that fish and shellfish ecology may also impact other receptors. The EIA Report should clearly set out impacts to key prey species (such as sandeel, herring, mackerel and sprat) and their habitats arising from the proposed development alone and cumulatively with other wind farms. Increasingly we need to understand impacts at the ecosystem scale. Therefore, consideration across key trophic levels will enable better understanding of the consequences (positive or negative) of any potential changes

in prey distribution and abundance on marine mammal (and other top predator) interests and how this may influence population level impacts. Consideration of how this loss and or disturbance may affect the recruitment of key prey (fish) species through impacts to important spawning or nursery ground habitats should also be assessed.

The PrePARED (Predators and Prey Around Renewable Energy Developments) project² may be helpful in the understanding of predator-prey relationships in and around offshore wind farms.

Cumulative assessment

Section 10.9 discusses potential cumulative effects. All impacts scoped in for the proposed alone (Table 10.6) will be assessed as potential impacts within the cumulative assessment. A buffer of 100km will be used for subsea noise, with all other impacts applying a buffer of 50km. We are content with what is proposed.

With the proposed number of offshore wind developments in Scottish waters, we are noting the tendency for developers to indicate no LSE from EMF impacts from a cumulative basis. However, we are concerned that the spatial and temporal scale is not being considered cumulatively across the network of cables, including those outwith the proposed development. Thus, we advise that EMF impacts are considered in the cumulative assessment.

Mitigation and monitoring

The embedded mitigation presented in Section 10.5 and summarised in Appendix A (Draft Schedule of Mitigation and Commitments) isn't directly related to fish and shellfish, however it will indirectly reduce the impacts of the development on fish and shellfish. Therefore, we currently agree with the embedded mitigation presented. However, should the EIA assessment show that further mitigation is needed for fish and shellfish, this should be addressed.

For basking shark – we advise that any mitigation for marine mammals should also be applied to basking sharks. Also, if Uncrewed Surface Vehicles (USVs) or Autonomous Underwater Vehicles (AUVs) are to be used, we recommend further consultation to agree on appropriate mitigation for basking sharks (and also marine mammals).

Transboundary impacts

Potential transboundary impacts are discussed in Section 10.10 and also in Appendix B (Transboundary Screening). We agree that transboundary impacts can be scoped out from further consideration.

² <https://owecprepared.org/>

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Appendix D – Marine Mammals

Marine mammals are considered in Section 11 of the EIA Scoping Report, with subsea noise considered in Section 8.

Study area

We are content with the approach to use a regional scale study area encompassing Management Units (MUs) for each species and a local scale study area based on the DAS (12 km buffer).

Baseline characterisation

Data sources

We are content with the proposed data sources, as per Table 11.1 and recommend consideration of Marine Directorate's SPAN / ECOMMAS acoustic work, as well as SMASS, WDC and ORCA sightings.

Table 11.4 outlines the SCANS available density estimates for species scoped into the assessment. We advise that the proposed development generates densities from site-specific DAS, as these numbers are much higher than we have previously seen. The most precautionary estimate between SCANS IV and DAS should be used. If there are no density estimates available from SCANS IV or the SCANS III modelled density surfaces are significantly higher, then SCANS III should be used instead. Similarly in Table 11.7, it is stated that DAS will be used to inform the assessment and SCANS (or other desktop available estimates) will be used. To be clear, we would advise the use of SCANS over DAS if the former was more precautionary (i.e. a higher value).

Table 11.5 sets out the estimated population size for each species. For grey seal, we note that population estimates were derived by the applicant from the most recent August counts at haul-out sites (applicant referenced SCOS, 2023). However, the figures presented differ slightly to those presented in the SCOS 2022 reports, i.e. for North Coast and Orkney, as well as Moray Firth. For the interim SCOS 2023 advice, there were no new seal population estimates available – thus the 2022 figures should still be used. When undertaking the assessment, any updated seal figures in the most recent SCOS report should be reviewed and incorporated if appropriate.

We are content with the reference populations stated in Table 11.5 for the wider study area, however for impact assessment, we advise use of population estimates for the UK portion of the IAMMWG MUs rather than the full MUs, for species with very large MUs. The reasoning for this is to try to present the most realistic assessment of numbers of animals affected by developments in Scottish waters. The MUs for most species are very large areas, and in most cases are too big for a meaningful understanding of impacts to affected populations. Although we know this is based on a non-biological delineation, we feel that using the UK portion of the MU better reflects the likely size of populations affected by the potential impact pathways. For species with smaller MUs, such as bottlenose dolphin in the Coastal East Scotland MU, and seals, the entire MU should be used in the assessment.

The use of population estimates for the full MUs are still useful for context and baseline characterisation. We advise stating the total MU population for context, and then assessing impacts against the UK portion of the MU.

Receptors

We are content with the list of species to be included in the EIA Report, as per Paragraph 11.4.5, which includes the consideration of humpback whale and killer whale qualitatively. However, given the recent strandings of pilot whales in Sanday, we advise that long-finned pilot whales are also considered qualitatively. Moreover, we advise scoping in common dolphin as they are increasing from the west out to other regions, including the north. They were also recorded, albeit in low numbers, within the site-specific DAS.

Basking shark are briefly discussed in Appendix C (Subsea Noise Modelling Method Statement) but there is no discussion within the baseline characterisation in either fish and shellfish or marine mammals. As raised in our post Scoping Workshop advice (issued 30th April 2024), we would expect to see further consideration of basking shark and potential impact pathways within the Scoping Report due to an increase in sightings on the east coast and Northern Isles in recent years.

Otter

Additionally, otters are also omitted from the Scoping Report. In our post Scoping Workshop advice (dated 30th April 2024), we highlighted that the proposed ECC makes landfall at Sinclair Bay, which lies approximately 4.5 km from the Caithness and Sutherland Peatland SAC. Otter are a qualifying feature of this SAC and are reliant on suitable habitat in the surrounding wider countryside, including the marine environment. The home range of an otter varies depending on their sex, habitat quality and food availability, with males having a mean linear range size of 48km and females of 21km. There are a number of burns that run from the SAC to Sinclair's Bay, via the Loch of Wester and River Wester. Therefore, there is the potential for connectivity between proposed activities in the ECC and the otter feature of the Caithness and Sutherland Peatlands SAC.

Potential impacts to otter may occur as a result of construction works at landfall and within the nearshore area. Further consideration should be given to otter, including consideration of impacts within the sub-tidal zone, particularly waters that are less than 10m deep and within 100m from shore (Kruuk, 2006) where foraging dives of otter are most likely to occur.

Although the screening of specific SACs will be assessed through the HRA process, we raise that potential impacts to otters in the nearshore area and at the coast should be considered to help inform the development of the HRA Screening Report. We also advise that, as a European Protected Species (EPS), otter should also be considered as part of the EIA and any subsequent EPS licensing processes.

Otter will also need to be considered for landfall and terrestrial aspects.

Designated sites

Table 11.6 lists the designated sites within the UK portion of the MUs.

The Southern Trench MPA is located 65.3km from the Scoping boundary, within the 100km buffer for subsea noise. Appendix D (Marine Protected Area Screening), concludes that the underwater noise contours associated with disturbance effects are unlikely to extend to the MPA and is therefore proposed to be screened out. However, we note that underwater noise modelling is still to be undertaken and we consider it premature to scope out effects on the Southern Trench MPA at this stage.

For grey seals, we advise screening in SACs for assessment if the project site/impact radius is within 20 km of the SAC. Although grey seals can and do forage considerable distances, the Conservation Objectives for grey seal SACs are related to the protection of the breeding colony. During this sensitive time, grey seals (especially females) do not travel further than about 20 km. Outside the breeding season the number of grey seals present can dramatically decrease at the site. There is evidence to show that grey seals may not forage close to the SAC outside the breeding season and instead can travel to different management units (Carter et al, 2022).

Regarding harbour seals, we advise screening in SACs for assessment if the project site/impact radius is within 50 km of the SAC. Ranges further than this should also be considered if there is other information (e.g. tagging data, photo-ID data) to suggest that SAC animals travel to the project area.

When assessing the Inner Hebrides and the Minches SAC, we advise that developers consider the pressure pathway when determining connectivity, i.e. whether an activity is capable of exerting a pressure on the feature (in this case, harbour porpoise) within the SAC. If the activity is sufficiently distant from the site, such that it is clear that any pressures will not impact the features within the site and the proposed development will not undermine the Conservation Objectives, it is likely that no LSE can be concluded.

Although the screening of specific SACs will be assessed through the HRA process, we raise it here to help inform the development of the HRA Screening Report.

Potential impacts

We are broadly content with the scoping of impacts as per Section 11.6 with further comments provided below.

For injury and disturbance in Table 11.7, we agree that a dose-response approach is used for piling. Clarification regarding what residual effect will mean would be helpful – we assume this to be the overall impact with mitigation applied. However, it would be useful to present the unmitigated impact initially. In relation, we wish to see a presentation of the percentage of the reference population affected to assign magnitude.

Unless sound levels are predicted to exceed PTS from operational or other construction activities (continuous noise sources), then PTS does not need to be included for these activities. Usually, it is just piling, UXO and any other impulsive noises that we would expect to see PTS modelled for.

Moreover, we are content for direct impacts to marine mammals from EMF to be scoped in, however, we would advise that indirect impacts from EMF are also scoped in – i.e. cross-reference between the fish and shellfish chapter and marine mammals chapter.

Finally, disturbance to seal haul outs should be considered, with this depending on vessel routes from the ports and harbours used for construction.

Approach to assessment

We confirm that the proposed approach to assessment is as expected. This section includes reference to the proposed approach to noise modelling, which will use the INSPIRE model. Further comments regarding the approach to assessment are provided below.

Densities

As discussed above, we advise that the most precautionary estimate between DAS and SCANS IV (or modelled density surfaces if available and only when more precautionary than the average density surface) should be used. If there are no density estimates available from SCANS IV or the SCANS III modelled density surfaces are significantly higher, then SCANS III should be used instead. If this is not available, we can accept Waggitt, et al. (2019).

For humpback whale, killer whale and long-finned pilot whale, a qualitative approach will be required, as described above.

iPCoD model

Population modelling (iPCoD) should be carried out in order to identify long-term impacts to marine mammal populations. This should be done for the proposed development alone and cumulatively with other activities (both OWF and others). A new version of the iPCoD model will be published soon, which incorporates a Dynamic Energy Budget (DEB) for harbour porpoise. This should be used if available within the project timelines, although we are content with the use of the current model otherwise.

Sensitivity and magnitude

From experience with recent casework, we wish to highlight that we do not agree with the assignment of sensitivity scoring to noise related impacts as negligible or even low for marine mammals. Scoring should take their ability to tolerate, recover and adapt behaviour to maintain vital rates in response to assessed pressures into account, as well as considering their conservation value. Value is consistently considered within the sensitivity criteria across other ecological receptors. Not including value/importance within the sensitivity criteria disregards the inherent reason why cetaceans and seals are given a high level of legislative protection through the Habitats Regulations and fails to fully acknowledge the potential risks to individuals and populations.

We welcome the use of iPCoD to provide context and consider the longer-term effects on the available species population. However, when defining magnitude, we do not agree that it is the only metric to consider. Ideally, the assessment should include an indication of the proportion of the population (where known) which is likely to be impacted. For some species, it may also be possible to model the population impacts (e.g. using iPCoD) to give an indication of long-term (25 year) effects. We advise that both approaches should be presented in the EIA Report, for species with adequate data. For other species, such as those only recorded occasionally or outwith the SCANS period, a qualitative assessment is sufficient where there are no density or population estimates.

Underwater noise modelling

In Table 8.2, we note that injury ranges will be estimated for UXO, however, we advise that disturbance is also assessed using TTS as a proxy. We are content with the use of thresholds as set out by Southall et al. (2019) as per Table C1.1, but we clarify that TTS modelling is required for UXO only.

We agree that the dose-response approach should be used for piling, as per Table C1.3. However, we highlight that for cetaceans, Graham et al. (2017) should be used. For continuous noise sources, we are content with the proposed threshold approach of 160 dB re 1 μ Pa (rms). However,

for impulsive noise sources we advise presenting thresholds as peak (rather than rms) to make it comparable with the Southall thresholds.

Moreover, we agree with the use of Popper et al. (2014) for fish, larvae and turtles.

It is proposed that the von Pein et al. (2022) scaling / line source approach is to be used, rather than point-source modelling, which we are content with.

Additionally, we are content with the swim speeds as set out in Table C1.7.

Cumulative impacts

Potential cumulative impacts are discussed in Section 11.9 and we advise considering a year on either side of the project, looking at both the temporal and spatial overlap. Moreover, we are content with the use of Effective Deterrent Ranges (EDRs) in the absence of project specific schedules. If the CEF is published within the project timeframe then we recommend that is used to undertake the cumulative assessment. In the interim, the most up-to-date version of iPCoD can be used instead.

Transboundary impacts

Potential transboundary impacts are discussed in Section 11.10 and also in Appendix B (Transboundary Screening). We agree that transboundary impacts can be scoped out from further consideration.

Mitigation and monitoring

We welcome the identification of embedded mitigation described in Section 11.5 and summarised in Appendix A (Draft Schedule of Mitigation and Commitments) and we are content with what is proposed.

As good practise measures, we recommend the Scottish Marine Wildlife Watching Code (SMWWC) is used to minimise disturbance to marine mammals and if possible, night vision binoculars, for pre- geophysical survey/piling/UXO clearance, particularly in poor visibility or at night.

For basking shark – we advise that any mitigation for marine mammals should also be applied to basking sharks. Also, if Uncrewed Surface Vehicles (USVs) or Autonomous Underwater Vehicles (AUVs) are to be used, we recommend further consultation to agree on appropriate mitigation for basking sharks (and also marine mammals).

Regarding monitoring, we encourage consideration of a strategic approach with adjacent OWFs in monitoring of potential impacts to marine mammals, especially with the use of novel floating technology and the lack of information we currently have on operational noise. We would welcome an outline of potential monitoring plans for the EIA Report and as we believe it is important to take industry opportunities to learn more about the baseline of marine mammals in Scotland, we would promote further consultation on monitoring approaches.

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Appendix E – Marine Ornithology

Ornithology interests are considered in Section 12 of the EIA Scoping Report.

Study area

Two distinct study areas are proposed, including the array area plus a 12km buffer and the ECC plus a 10km buffer up to Mean High Water Springs (MHWS). Whilst this is appropriate, it is important that a wider, regional study area is also identified to enable regional populations to be calculated. Paragraph 12.2.5 briefly mentions this, but we reiterate that the wider study area should be derived from:

- Species-specific breeding season foraging ranges from Woodward et al. (2019), as provided in our Guidance Note 3³, and
- for the non-breeding season, Biologically Defined Minimum Population Scales (BDMPS) regions as defined in Furness (2015)⁴.

Please note that for guillemot and herring gull in the non-breeding season we advise that the breeding season foraging range is used as these species do not disperse far offshore during the non-breeding season, remaining relatively close to breeding colonies.

Baseline characterisation

Table 12.1 lists the technical guidance, key data and information resources that will be utilised to inform the ornithology assessment. It is difficult to determine whether these resources are adequate as insufficient information is provided. For example, “British Trust for Ornithology (BTO) (2024)” is listed without any context – if it refers to the Seabird Monitoring Programme database, which is a key data resource, then this should be made clear.

We note that the applicant intends to refer to current and previous offshore wind projects which provide relevant information. However, we would not recommend using the West of Orkney 2023 application as it is going through considerable amendments, particularly in relation to the ornithology section of the application.

Potential impacts

We are broadly content with the impacts scoped in/out as per Table 12.4 and 12.5, respectively, with the following advice.

Disturbance from vessel movements

We are pleased to see that Table 12.4 includes potential disturbance of birds from their preferred foraging areas by the transiting of vessels from between a port and the wind farm.

This will be of particular importance if the ports used could result in impacts on diver and sea duck qualifying features of SPAs, such as Scapa Flow. If vessels are likely to transit through such sites,

³ <https://www.nature.scot/doc/guidance-note-3-guidance-support-offshore-wind-applications-marine-birds-identifying-theoretical>

⁴ Furness (2015) - Non-breeding season populations of seabirds in UK waters - Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Report NECR164.

we recommend that the assessment process for vessel disturbance at these sites includes the following:

- information on likely vessel routes, lie up/sheltering areas, numbers of vessel trips, types of vessels;
- information on existing vessel traffic and the increase in traffic resulting from the project;
- sensitivity of qualifying features to vessel disturbance;
- bird densities and distribution of sensitive species throughout the SPA and consideration of how potential vessel traffic may impact on areas of higher bird densities;
- extent of the SPA and degree of SPA populations likely to be affected by the vessel traffic;
- reference to a Vessel Management Plan and any embedded mitigation measures in the plan that are relevant to birds; and
- any additional ornithology mitigation measures specific to this impact.

Although impacts on specific SPAs will be assessed through the HRA process, we raise it here to help inform the development of the HRA Screening Report.

Disturbance to prey species and their habitats

UXO clearance is mentioned under disturbance to prey species and their habitats in relation to underwater noise. Detonation of UXO may also risk injury or death to diving seabirds within the vicinity. Thus, direct impacts to seabirds should also be included, alongside indirect impacts from underwater noise on prey species.

Attraction to light

Please note that species such as European storm petrel, Leach's petrel and Manx shearwater are vulnerable to both light attraction and disorientation. As well as turbine lighting, lighting on servicing or construction vessels could be of concern, especially if construction will be a 24/7 operation.

Manx shearwater and storm petrel have been recorded in DAS surveys and therefore we would expect a qualitative assessment of the impacts of lighting on these species to be carried out. The following report may be helpful: *Petrel and Shearwater Sensitivities to Offshore Wind farms – Evidence Review*⁵.

Approach to assessment

MRSea

Our advice, as per our Guidance Note 2⁶, is that MRSea is used for density modelling whenever feasible. However, we recognise that it may not be possible to run the spatial elements of MRSea if the number of data points for a species is less than 10, or the species is present in a uniform distribution. If this occurs, we require an explanation to be provided for any relevant species and can accept the use of design-based approaches.

⁵ <https://www.gov.scot/publications/review-inform-assessment-risk-collision-displacement-petrels-shearwaters-offshore-wind-developments-scotland/>

⁶ <https://www.nature.scot/doc/guidance-note-2-guidance-support-offshore-wind-applications-advice-marine-ornithology-baseline>

Availability Bias

A report has recently been published which presents new availability bias correction factors for auks and red-throated diver – *Temporal and spatial variability in availability bias has consequences for two marine bird abundance estimates during the non-breeding season* (Dunn et al., 2024). We are currently reviewing this and will update our guidance shortly if appropriate. Depending on timescales, this may be relevant for the Ayre project.

Collision Risk Modelling

Our CRM Guidance Note is currently being revised and an updated version will be published shortly. We recommend using the revised guidance to develop the CRM approach.

At this stage we can share the following key changes to our guidance:

- We have taken account of Ozsanlev-Harris et al. (2023)⁷ avoidance rates and can accept their use in assessments.
- When running CRM we only require the:
 - Most Likely Scenario (MLS) – option 2 (using the generic flight height dataset).
 - Worst Case Scenario (WCS) – option 2 (using the generic flight height dataset).

Please note that we require both stochastic and deterministic CRM outputs and these should be presented using the 2022 update to [the sCRM tool shiny app](#) (Caneco 2022).

Regarding fulmar, this species is not considered to be at high risk of collision impacts, as flight height is generally close to the sea surface and below potential collision height. It is standard practice that collision risk modelling is not undertaken for this species.

We are aware that Natural England have produced a macro avoidance rate report for gannet for use in CRM. We don't feel there is enough evidence from the breeding season, or from studies close to breeding colonies in Scotland, for us to accept the findings of this report for the breeding season. We can, however, accept it in the non-breeding season.

In Paragraph 12.8.18, it is noted that the Migratory CRM will be used to predict the number of collisions of migratory birds. We understand that the ShinyApp version of the mCRM tool is currently hosted on the HiDef website, but the mCRM tool has not yet been published by Marine Directorate.

A strategic assessment of migrant collision risk at Scottish and Sectoral Marine Plan regional level under various scenarios is under development. It will use the information from the recently published strategic review of birds on migration in Scottish waters⁸ within the mCRM tool and will provide an update to the 2014 report⁹. This will be very useful for current offshore wind farm projects and, depending on timeframes, may be applicable to the Ayre project.

⁷ Ozsanlav-Harris et al (2023). Review of data used to calculate avoidance rates for collision risk modelling of seabirds. JNCC report 732

⁸ Woodward et al (2023) - Strategic study of collision risk for birds on migration and further development of the stochastic collision risk modelling tool: Work Package 1: Strategic review of birds on migration in Scottish waters

⁹ Wildfowl & Wetlands Trust (Consulting) Ltd (2014) - Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds. Scottish Marine and Freshwater Science Report Vol 5 No 12

Displacement assessment

In Paragraph 12.8.21, we note that the matrix method will be used to assess distributional effects for all species. However, we recommend that SeabORD is used to assess the impact of distributional effects during the chick rearing season for guillemot, razorbill, puffin and kittiwake, as advised in our Guidance Note 8¹⁰.

It is our understanding that the MATLAB version 1.3 of SeabORD is currently available and can be used in the absence of the Cumulative Effects Framework (CEF). We recommend contacting MD-LOT if you have any issues with using SeabORD and for any updates on availability of different versions.

Paragraph 12.8.22 highlights the most abundant species from the first 12 months of DAS, which are also susceptible to displacement, including guillemot, razorbill and puffin. Other species present in sufficient numbers in the initial data and vulnerable to displacement are kittiwake, fulmar and gannet. Kittiwake and gannet are susceptible to both collision and displacement and these impacts should be combined in assessments. Fulmar have not previously been assessed in projects due to their extensive foraging range. However, they have now started to be included in some assessments particularly due to proximity to breeding colonies and concerns with barrier effects. When the full two years of survey are completed, this may need further consideration.

Apportioning

Seabird populations at SPAs and non-SPAs should be derived from Seabirds Count¹¹ and the Seabird Monitoring Programme database¹², using the most up to date counts. For colonies badly affected by HPAI, additional counts have been carried out in 2023 and 2024 and these should be used.

Population Viability Analysis

We note that PVA will be undertaken when a decrease in survival of >0.02 percentage points is predicted for SPA qualifying species. This should be greater than *or equal to* 0.02 percentage points, as per the example provided, which we appreciate is not very clear in our Guidance Note 8¹³ and this will be amended. The EIA threshold should be the same as for HRA, rather than the >1% increase in baseline mortality proposed in the scoping report.

We can further advise that a PVA of the in-combination effect is not required where the project alone mortality for a species is less than 0.2 birds per annum. In this instance, a table should be provided that details by site/species what the point change in adult survival rates are and number of birds impacted per annum.

There is no mention of counterfactuals in Paragraphs 12.8.26 or 12.8.27, and we therefore clarify that counterfactual ratios of both final population size and population growth rate should be presented as per our Guidance Note 11¹⁴.

¹⁰ <https://www.nature.scot/doc/guidance-note-8-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing>

¹¹ Seabirds Count – A Census of breeding seabirds in the UK and Ireland (2015-2021), Burnell et al.

¹² <https://app.bto.org/seabirds/public/index.jsp>

¹³ <https://www.nature.scot/doc/guidance-note-8-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing>

¹⁴ <https://www.nature.scot/doc/guidance-note-11-guidance-support-offshore-wind-applications-marine-ornithology-recommendations>

JNCC are currently undertaking a project to update Horswill and Robinson (2015)¹⁵ in terms of demographic rates for use in PVA. Once published, we would anticipate that this is used. The final report should be published shortly.

Moreover, we support the modelling of impacts over 25 and 50 years, but also recommend the intended duration of the project being modelled, if this is different.

HPAI

There is no mention of HPAI in the Scoping Report. There is a need for ongoing engagement in relation to the impacts of HPAI and how to incorporate these impacts within assessments. Work is continuing within NatureScot to provide further information in due course. In the meantime, we expect the impact of HPAI on colonies to be considered qualitatively especially when reviewing PVA outputs.

As the DAS survey work straddles the HPAI outbreak it will be important for assessment purposes to consider the current status of seabird populations at SPA colonies. Surveys have been undertaken at a number of key seabird colonies in 2023, coordinated by RSPB, and some are being repeated in 2024. Recent data for key species at some sites can already be found on the SMP database. RSPB have published a report on HPAI effects which will provide helpful context: *UK seabird colony counts in 2023 following the 2021-22 outbreak of Highly Pathogenic Avian Influenza. Research Report 76. RSPB Conservation Science 2.*

Cumulative impacts

Section 12.10 considers potential cumulative impacts. We note that the developers of the North-East and East Ornithology Group (NEEOG), of which the Applicant is one, have commissioned a methodology to provide an interim solution to cumulative effects assessment in the absence of the CEF. It is proposed that all NEEOG projects will use the agreed cumulative effects assessment numbers, for comparable results. We are aware of this work and in principle can agree with it being used, however, we are unsighted of any details or recent updates to enable us to fully support it.

If the CEF is published within the project timeframe then we recommend that is used to undertake the cumulative assessment. In the interim, NatureScot are currently preparing guidance on aspects to be considered and presented in the EIA Report and RIAA. We hope this will be available shortly.

In addition, we have advised Marine Directorate that the Berwick Bank application will have adverse effects on site integrity (AEoSI) on multiple seabird species within the UK European Site Network, some of which overlap with the species and sites assessed in other applications. Consequently, as the outcome of the Berwick Bank application is unknown at present, PVA models should be run using two scenarios: Berwick Bank consented and unconsented. If this situation changes, we will be able to update you.

Transboundary impacts

Potential transboundary impacts are briefly described in Section 12.11 and also in Appendix B (Transboundary Screening). We support the approach to transboundary impacts.

¹⁵ Horswill & Robinso (2015) Review of Seabird Demographic Rates and Density Dependence. JNCC report 552

Mitigation and monitoring

We welcome the identification of embedded mitigation described in Section 12.6 and summarised in Appendix A (Draft Schedule of Mitigation and Commitments).

However, much of the embedded mitigation detailed includes the development and adherence to post-consent plans/programmes. Plans do not strictly constitute mitigation; as it's the measures contained within the plan that will mitigate impacts. The EIA Report must clearly articulate those mitigation measures that are informed by the EIA and are necessary to avoid or reduce predicted significant adverse environmental effects of the proposed development. We advise that the full range of mitigation and monitoring measures, and published guidance, are considered and discussed in the EIA Report.

There is scope for additional embedded mitigation measures to be specified, for example:

- With respect to nocturnal species impacts of lighting could be an issue. Species such as European storm petrel, Leach's storm-petrel and Manx shearwater may be attracted to and/or disorientated by artificial light sources.
- As well as lighting on turbines and other structures, this includes lighting on servicing or construction vessels, particularly if construction will be a 24/7 operation. Such effects could impact assessment of collision and/or displacement. We recommend considering the findings from the Marine Directorate commissioned review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland¹⁶.
- In addition, we recommend that protocols are built into construction and operation phases for monitoring and handling of any birds attracted by lighting, as well as associated recording of any such incidents including context (e.g. weather).

¹⁶ Deakin, et al. (2022). [A review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland](#). Marine Directorate.

National Air Traffic Services ("NATS")

From: [NATS Safeguarding](#)
To: [MD Marine Renewables](#)
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024 [SG37744]
Date: 24 July 2024 15:58:33
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)

Our Ref: SG37744

Dear Sir/Madam

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours faithfully

NATS

NATS Safeguarding

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NATS Public

Northern
Lighthouse Board
("NLB")



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Your Ref: SCOP-0049 – Ayre OWF – Scoping Report
Our Ref: AL/OPS/ML/WIND_048_24

Ms Amy Woodward
Licensing Operations Team – Marine Directorate
Scottish Government
Marine Laboratory
375 Victoria Road
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AB11 9DB

9 July 2024

REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017; REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2007; REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017 (collectively referred to as the “EIA Regulations”)

SCOP-0049 – Thistle Wind Partners Limited – Ayre Offshore Wind Farm – Scotwind NE2 Site – Approximately 22 km from Orkney

Thank you for your e-mail correspondence dated 4th July 2024 relating to the Scoping Report submitted by **Thistle Wind Partners Ltd** for the proposed development of the Ayre Offshore Windfarm, located approximately 22km east of Orkney. NLB note the irregular shape of the Plan Option Area, with two distinct potential development areas.

It is noted that the project will consist of a maximum of 67 Wind Turbine Generators (WTG) utilising either fixed or floating foundation types, and up to 3 fixed foundation Offshore Substation Platforms (OSP). Up to 4 export cables will connect the array to the landfall site at Sinclair’s Bay, Caithness.

Northern Lighthouse Board acknowledge the inclusion of Chapter 14 – Shipping and Navigation within the report, and welcome the commitment to develop Post-Consent documentation including a Lighting and Marking Plan (LMP), Development Specification and Layout Plan (DSLPL) and a Navigational Safety Plan (NSP) as embedded mitigations across all phases of the project. NLB will continue to engage with the developer with regard to these documents.

NLB respects your privacy and is committed to protecting your personal data.
To find out more, please see our Privacy Notice at www.nlb.org.uk/legal-notice/

NLB also welcome the inclusion of Section 14.9 (Potential Cumulative Effects) and 14.10 (Potential Transboundary Effects).

Northern Lighthouse Board also note the inclusion of Section 3.9 acknowledging the requirement to consider the impact of wet storage of wind farm infrastructure throughout the construction of the project, but that this will be considered by the relevant port, harbour or storage facility, and not within the wind farm EIA.

NLB do request that consideration is given within the EIA to the potential impact that a wreck (either that of a vessel or WTG) could have upon navigation, both within the Ayre array areas and the immediate vicinity.

Yours sincerely

Redacted

Peter Douglas
Navigation Manager

Orkney Islands Council ("OIC")

SCOP/0049 – Thistle Wind Partners Limited – Ayre Offshore Wind Farm – Scotwind NE2 Site – Approximately 22 km from Orkney

Orkney Islands Council Delegate Response

Orkney Islands Regional Marine Plan (OIRMP)

It should be noted that Orkney Islands Council (OIC) has prepared the Orkney Islands Regional Marine Plan (OIRMP) which has been deposited for public consultation, as a consultation draft, from 1 August to 25 October 2024. Following this consultation, and subject to approval by Scottish Ministers, the OIRMP is scheduled to be adopted in 2025.

When the Ayre Offshore Wind Farm development proposal is submitted and determined for the various statutory consents, the OIRMP may be adopted. Authorisation or enforcement decisions made by a public authority need to be made in accordance with the appropriate marine plan(s), unless relevant considerations indicate otherwise.

The Marine Licensing (Consultees) (Scotland) Order 2011

As the delegate for regional marine planning functions under section 12(1) of the Marine (Scotland) Act 2010, OIC are a statutory consultee on marine licence applications located wholly or partly within the Orkney Islands marine region. OIC, as the planning authority and the delegate, should be consulted on relevant matters by the developer during the EIA process to ensure that relevant matters are addressed.

European Protected Species – Cetaceans

Cetaceans are frequently seen in Orkney's coastal waters. An assessment should therefore be undertaken of the likely effects of the cable deployment on cetaceans, to determine any EPS licensing requirement.

Basking shark

Basking sharks are regularly seen in Orkney waters. An assessment should be undertaken of the likely effects of the proposal on this species and, where necessary, mitigation measures should be identified which would avoid or minimise any adverse impacts.

Benthic Priority Marine Features (PMF)

There is likely to be unidentified Priority Marine Features within the development area, such as the Ocean Quahog which has been recorded within a few kilometres of the lease area. The commitment to a site-specific benthic survey to identify potential protected species and habitats is supported.

Commercial Fisheries

The EIA should include sufficient information to avoid, minimise or appropriately mitigate, significant adverse impacts:

- on commercial fishing opportunities, taking into account seasonality and the year-round operation of the affected fishery;
- on nursery, spawning and feeding areas for commercially fished species, and associated habitats and species;
- due to displacement, including related impacts on the wider marine environment, on fish stocks and the use of fuel by fishing vessels;
- on safe access to marine space for fishing vessels, including the seabed, water column and sea surface, and navigational access to and from landfall areas, e.g. ports, harbours or slipways; and
- on the economic, and where appropriate, cultural importance of fishing, in particular to fragile island communities.

Para. 13.7.2 identifies that consultation will be undertaken with Orkney Fisheries Association. This should also include the Orkney Regional Inshore Fisheries Group.

Shipping and navigation

The identification of local ports and harbours at para. 14.4.3 should include the Scapa Flow Harbour Area / Scapa Flow Oil Port. It should also identify Hatston in addition to Kirkwall (these are two separate harbour facilities with different functions).

The Scoping Report should make reference to the Orkney County Council Act 1974 as it includes the provisions for the establishment and operation of the Orkney Harbor Authority and Orkney Harbours Areas.

Table 14.2 identifies impact on port/harbours and nearshore operations, and that this could include impacts on access to local ports by the presence of the project and operations associated with it. Table 14.2 should identify potential for significant impacts on the operation of Orkney Harbour Areas, particularly impacts relating to the deployment of offshore wind turbines to the proposed development site e.g. from Scapa Flow Harbour Area.

Table 14.2 should identify the assessment of potential impacts on lifeline ferry services particularly in relation wind turbine deployment during the construction phase and cabling laying.

Stakeholders identified at para. 14.7.4 should include Pentland Ferries.

Socio-economics

Para. 18.2.4 states *‘at the time of completing the Environmental Impact Assessment (EIA), it is unlikely that key epicentres, such as construction and O&M ports will have been selected. If port locations, for either the construction or O&M phases, have been determined prior to the assessment, a more local socio-economic study area will be defined in line with the principles above and included as an Economic Study Area’.*

It is reasonably foreseeable that Orkney ports could be used during the construction, operation and decommissioning phases of the proposed development. It is therefore requested that Orkney be identified as a local socio-economic study area and that an assessment of associated socio-economic impacts be carried out. This should include an assessment of effects on the Orkney economy, demographics, local housing market, labour market and local services i.e. changes in demand for housing and local services resulting from the proposed development.

Identified impacts should include direct employment impacts and displacement effects on the local workforce and supply chain e.g. workers from other sectors moving to offshore wind related employment or local suppliers (e.g. freight) not being able to service existing sectors/customers.

Table 18.1 Summary of Key Desktop Datasets and Materials should include:

- Orkney Economic Review 2020, <https://www.orkney.gov.uk/our-services/enterprise-and-economic-growth/orkney-economy/>
- Highlands and Islands Area profile 2020, Orkney, <https://www.hie.co.uk/media/10595/orkney-area-profile-2020.pdf>
- Orkney Islands Economic Review 2020, https://fraserofallanderinstitute.wpcomstaging.com/wp-content/uploads/2020/09/Orkney-Islands-Economic-Review_.pdf
- Orkney Islands Council Area Profile, <https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/orkney-islands-council-profile.html>

OIC Economic Development should be consulted to inform the baseline and assessment of socio-economic impacts.

Section 18.5 Embedded Mitigation should include a commitment to the preparation of a local workforce strategy to maximise local job opportunities and address associated skills

requirements. A Local Accommodation Strategy should also be identified as part of the proposed programme of embedded mitigation to address impacts on accommodation provision in Orkney, particularly during the construction phase of the proposed development.

In March 2023, OIC commissioned the Orkney Islands Essential Workers Housing Strategy to help identify and address challenges faced by Orkney residents and incoming workers relating to very high housing demand and constrained supply. This strategy has been developed and is referenced within the context of the new Orkney Housing Need and Demand Assessment and emerging Local Housing Strategy that will identify housing requirements across all of Orkney's population.

In October 2023, a new Orkney Islands Council Housing Need and Demand Assessment (HNDA) was appraised by the Scottish Government's Centre of Housing Market Analysis (CHMA), on behalf of the Scottish Government, as being robust and credible. The HNDA outlines the housing market drivers and the significant housing pressure experienced in Orkney including:

- Higher the average population growth - Since 2001, the population in Orkney has increased by 17%, compared with 8% across Scotland. This has been driven by high net migration.
- This has resulted in much higher household growth than found on average in Scotland - 29% in Orkney compared to 15% Scotland over the last 20 years.
- It is predicated that population and household growth will continue. There is evidence of a higher level of net migration in recent years and in addition, significant temporary migration (i.e. 'supplementary' workforce who live in Orkney on a rotational basis and agency staff), which is not captured in projections – this temporary population adds further housing pressure. There is evidence of migration being constrained due the lack of housing for incoming permanent workers.
- Pressure is evidenced by increasing house prices, and rental prices, and lack of availability of private rented and social rented housing for residents and essential incoming workers. Most recent data from Registers of Scotland shows Orkney house price growth being double the Scottish average (2021/22 and 2022/23).
- There is significant potential for economic growth in Orkney as part of the Islands Growth Deal and from the renewables industry. This has impacts on short-term and longer-term housing needs.

The HNDA shows a range of scenarios and resultant new housing supply requirements over the next 20 years. The Council's emerging housing strategy is adopting the principal scenario which will result in a Housing Supply Target of 103 new houses per annum, on

average 92 new houses across tenure over the next 20 years (a total of 1,837 new housing units is required over the next 20 years).

The Essential Workers housing strategy considers the housing needs of:

- keyworkers and other essential workers moving to Orkney permanently;
- agency/interim staff working in Orkney, who are living temporarily in Orkney for work purposes, but who are permanent residents elsewhere;
- students moving to Orkney for study;
- workers required for potential infrastructure construction projects.

The Orkney Islands Essential Workers Housing Strategy estimates that at least 1,359 bedspaces will be required to accommodate construction workers for potential infrastructure projects that may start in the islands from 2024 (pending approvals). These are temporary housing requirements but may have a very significant impact on the housing market for existing residents. In addition to the temporary requirements, the strategy estimates that at least 200 additional long-term jobs will be created for the operational phases, 100 of which are assumed to be filled by new households to Orkney. The infrastructure projects that have informed this assessment include, the Finstown SSEN Interconnector Substation, projects under the Islands Growth Deal and projects under the Orkney Harbours Masterplan (Scapa Deep Water Quay, Hatston Logistics Base and Lyness).

In addition, given that the current pressure on the provision of tourist accommodation is very high on Mainland Orkney during the tourist season, it is recommended that measures be put in place to mitigate any further pressure from the housing of construction workers associated with the proposed development in tourist accommodation during the project construction phase.

Marine Archaeology (Chapter 19)

These comments relate to the Marine Archaeology and Cultural Heritage (Chapters 19 and 21 respectively) information in Thistle Wind Partners' Ayre Offshore Wind Farm: Offshore Scoping Report, Ref No. TWP-AYR-RPS-OFC-RPT-00031 / FINAL as submitted to the Marine Directorate of the Scottish Government. These comments are relevant to Orkney Regional Waters and terrestrial cultural heritage assets in Orkney.

It is agreed that the inclusion of Marine Archaeology should be within the scope of the EIA.

The identification of the potential for submerged prehistoric archaeology within the Scoping Boundary as low, with the greatest potential as likely to be localised and found closer to shore is accurate.

It is accepted that archaeological assessment of the site-specific geophysical survey data will provide further information on the potential for submerged prehistoric archaeology within the Marine Archaeology Study Area.

The identification of known wrecks or possible wreck sites (both vessel and airplane) appears satisfactory as are the sources consulted. The identification of the potential for the presence of unknown shipwrecks and aircraft is also satisfactory.

It is accepted that archaeological assessment of the site-specific geophysical survey data will inform the further characterisation of maritime archaeology in the Marine Archaeology Study Area.

The embedded mitigations that are identified are acceptable and should be included in the scope of the EIA process.

The impacts that have been scoped into the assessment as outlined in Table 19.4 are supported. The identification of any additional data collection and supporting analyses required to enable a full assessment of the impacts is also supported. It is agreed that no potential impacts are to be scoped out of the assessment.

The proposed assessment methodology is agreed, although consultation with the Islands Archaeologist on the criteria for levels of the importance/significance of identified assets, and the criteria for evaluating the levels of impacts is expected.

The identification of the potential for inter-related, cumulative and transboundary is supported.

The intention to produce a Marine Archaeology Technical Report to inform the assessment of significant effects that will be presented in the Marine Archaeology section of the Offshore EIA Report, including a robust mitigation strategy, the development and implementation of AEZs and an Outline WSI and PAD, to ensure the protection of the marine archaeology resource within the Marine Archaeology Study Area is supported.

Cultural Heritage (Chapter 21)

The inclusion of potential impacts of the Proposed Development upon the setting of relevant onshore heritage assets in Orkney in the scope of the EIA is supported. The Study Area is agreed with, as is the proportionate approach of covering only those designated heritage assets where it is considered there is potential for a significant effect.

The cultural heritage assets that have been identified as receptors where there is a known visual relationship with the sea that contributes substantively to their cultural significance and where change as a result of the Proposed Development might result in significant effects is not a complete list of such assets. It is noticed that there is an omission of any designated site in Stronsay or Auskerry, a gap which should be explained or filled. The list of identified assets should be considered a shortlist of sites that can act as proxies for the

effects on other sites where the relationship to the open sea is a substantive factor. All of these sites should be identified and listed in the Technical Report, although only the proxy sites need be assessed.

The embedded mitigations that are identified are acceptable and should be included in the scope of the EIA process.

The impacts scoped in and out of the Proposed Development Assessment for Cultural Heritage are agreed.

The proposed assessment methodology is agreed, although consultation with the Islands Archaeologist on the criteria for levels of the importance/significance of the setting of identified assets, and the criteria for evaluating the levels of impacts is expected.

The identification of the potential for inter-related, cumulative and transboundary is supported.

Seascape, Landscape and Visual Impact

The viewpoints identified in Table 20.2 are considered adequate to assess landscape/visual impacts on coastal receptors in Orkney. It is recommended that an additional viewpoint be included on Hoy within the Hoy and West Mainland National Scenic Area.

Royal Society for the
Protection of Birds
Scotland ("RSPB
Scotland")

Amy Woodward
Marine Licensing and Consenting Casework Officer
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By email: MD.MarineRenewables@gov.scot

28th August 2024

Dear Amy,

**AYRE OFFSHORE WIND FARM – SCOTWIND SITE NE2
APPROXIMATELY 22 KM FROM ORKNEY
CONSULTATION ON EIA SCOPING REPORT**

REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2017
REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2007
REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017

Thank you for consulting RSPB Scotland on the above Scoping Report, and for allowing RSPB an extension of time to respond.

Unfortunately, due to ongoing capacity issues, which we very much hope to resolve shortly, we have been unable to engage as fully in this consultation as we might like to have done. However, we do have the following comments to make.

General Comments

RSPB Scotland supports the deployment of renewable energy projects, providing that they are sited in appropriate places and designed to avoid potential adverse impacts on wildlife. We advise that all assessments should follow appropriate NatureScot Guidance.

The UK is of outstanding international importance for its breeding seabirds and wintering marine birds. As with all Annex I and regularly migratory species, the UK has a particular responsibility under the Birds Directive to secure their conservation. Their

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The RSPB is part of BirdLife International, a Partnership of conservation organisations working to give nature a home around the world.

survival and productivity rates can be impacted by offshore windfarms directly (i.e. collision) and indirectly (e.g. displacement from foraging areas, additional energy expenditure, potential impacts on forage fish and wider ecosystem impacts such as changes in water column stratification).

As set out in Searle et al (2023¹), assessing impacts of offshore windfarms and other renewables developments is inherently uncertain. This uncertainty is propagated throughout the impact assessments, as there are not only direct impacts, but ecosystem wide impacts that can change, for example, the abundance and availability of prey. Multiple data sources and modelling techniques are used to capture a simplified version of reality. They do not fully capture the complexity of seabird behavioural or demographic processes in a dynamic marine environment.

Not recognising these uncertainties risks poorly informed decisions being made. Furthermore, an underestimation of impacts will have repercussions when consenting later offshore wind development. If a precautionary approach is taken from the beginning, the likelihood of irreversible damage occurring is reduced even whilst our knowledge base is incomplete, and modelling improves.

The precautionary principle requires the Applicant to demonstrate with scientific certainty that something would not be harmful. The concept of something being overly precautionary dismisses the inherent uncertainty in modelling and overlooks the simplistic version of reality that the modelling captures.

Ecosystem Impacts

RSPB Scotland would welcome an inclusion of an explicit consideration of the potential wider ecosystem impacts that may arise through the construction and operation of the wind farm². Such developments have the potential to alter local and regional shelf-sea hydrodynamics and subsequently bio-physical processes. These could manifest, for

¹ Searle, K.R., O'Brien, S.H., Jones, E.L., Cook, A.S.C.P., Trinder, M.N., McGregor, R.M., Donovan, C., McCluskie, A., Daunt, F. and Butler, A., 2023. A framework for improving treatment of uncertainty in offshore wind assessments for protected marine birds. *ICES Journal of Marine Science*, p.fsad025.

² Isaksson, N., Scott, B.E., Hunt, G.L., Benninghaus, E., Declerck, M., Gormley, K., Harris, C., Sjöstrand, S., Trifonova, N.I., Waggitt, J.J. and Wihsgott, J.U., 2023. A paradigm for understanding whole ecosystem effects of offshore wind farms in shelf seas. *ICES Journal of Marine Science*, p.fsad194.

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The RSPB is part of BirdLife International, a Partnership of conservation organisations working to give nature a home around the world.

example, through changes in water column stratification arising from the presence of the wind farm, ultimately altering the availability of prey to seabirds.

Highly Pathogenic Avian Influenza

The current H5N1 strain of Highly Pathogenic Avian Influenza (HPAI) has affected UK wild bird populations on an unprecedented scale since it was first recorded in the country in Great Skuas in summer 2021, with seabirds and waterfowl particularly affected. The extent of reported mortalities attributed to HPAI in the UK and across Europe in 2022 demonstrated that HPAI had become one of the biggest immediate conservation threats faced by multiple seabird species, including some for which the UK population is of global importance. Many species impacted by HPAI are of conservation concern in the UK, and the outbreak comes on top of widespread declines reported by the latest seabird census.

It is currently unclear what the population scale impacts of the outbreak will be, but it is likely that they will be severe. This scale of impact means that seabird populations will be much less robust to any additional mortality arising from offshore wind farm developments. It also means that there may need to be a reassessment of whether SPA populations are in Favourable Conservation Status. With such uncertainty as to the future of these populations, there is the need for a high level of precaution to be included in examination of impacts arising from the proposed development. The RSPB welcome that the Applicant has included consideration of these emerging issues in their scoping report.

Detailed Comments

RSPB Scotland notes that the Scoping Report is based on 12 months of Digital Aerial Survey (DAS) data, but that the intention is that the Offshore EIA Report will analyse 24 months of DAS data. RSPB Scotland welcomes the Scoping Report's conclusion that no bird species are to be scoped out following review of the initial 12 months DAS data.

RSPB Scotland Headquarters
2 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

Tel: 0131 317 4100
Facebook: @RSPBScotland
Twitter: @RSPBScotland
rspb.org.uk



The RSPB is part of BirdLife International, a Partnership of conservation organisations working to give nature a home around the world.

We request that the methods and results of the DAS are presented following the recommendations detailed in the NatureScot Review of Digital Aerial Survey Methods³.

RSPB Scotland welcomes the inclusion of LiDAR surveys to help to characterise the site-specific flight heights of birds present in the survey area. We would further welcome discussion with the Applicant, NatureScot, MD-SEDD and RSPB Scotland as to how most effectively these data could be incorporated into the assessment.

As well as the species listed in 12.8.22 for analysis of impacts arising through distributional responses to the presence of turbines, RSPB Scotland request that barrier effects acting on fulmar are also included. While we acknowledge that previously this impact pathway has not been identified as a potential issue for this species, due to the extensive extent of proposed developments in the North Sea it may become an emerging issue.

As well as the species listed in 12.8.22 for analysis of impacts arising through collision with rotating turbine blades, we would welcome the inclusion of Manx Shearwater, and potentially petrel species. While the low flight heights suggested by Johnstone *et al.*, (2014)⁴ suggest that they are not at risk of collision, higher flights can potentially occur under certain weather conditions, and, in particular, as an attraction response, and subsequent disorientation, to the lighting on the turbine. With these species we would also request explicit consideration as to how their diel behavioural cycles interact with the restricted DAS timings.

Should you wish to discuss any of the above please do not hesitate to contact me.

Yours sincerely,

REDACTED

Peter Hearn
Head of Planning, RSPB Scotland

³ <https://www.nature.scot/doc/offshore-wind-ornithological-impact-assessment-review-digital-aerial-survey-methods>

⁴ Johnston, A., Cook, A. S., Wright, L. J., Humphreys, E. M., & Burton, N. H. (2014). Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. *Journal of Applied Ecology*, 51(1), 31-41.

RSPB Scotland Headquarters
2 Lochside View
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Twitter: @RSPBScotland
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The RSPB is part of BirdLife International, a Partnership of conservation organisations working to give nature a home around the world.

**Royal Yachting
Association Scotland
("RYA Scotland")**

1 August 2024

Amy Woodward,
Marine Licensing and Consenting Casework Officer,
Licensing Operations Team,
Marine Directorate
Scottish Government
Marine Laboratory,
375 Victoria Road,
Aberdeen,
AB11 9DB
MD.MarineRenewables@gov.scot

Dear Amy,

SCOP-0049 – Thistle Wind Partners Limited – Ayre Offshore Wind Farm

I have read the relevant parts of the scoping report on behalf of RYA Scotland. I agree that Shipping and Navigation should be scoped in and would wish to be involved with the Navigational Risk Assessment. I will work on this with my colleague in the Cruising Association.

We are happy with the baseline (including data sources), methodology proposed, embedded mitigation, and potential impacts (scoped in and out), potential inter-related effects, potential cumulative effects, and potential transboundary impacts. However, an additional potential impact is loss of AtoNs due, for example, to storm damage, particularly as rectifying damage may take some weeks.

Yours sincerely,

Dr G. Russell FCIEEM(retd) FRMetS
Planning and Environment Officer, RYA Scotland

Scottish Environment Protection Agency ("SEPA")

From: [Planning.North](#)
To: [MD Marine Renewables](#)
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 04 July 2024 16:49:05
Attachments: [image001.png](#)

OFFICIAL

SEPA response PCS-20002191

We have no site-specific comments; please simply refer to our standing advice.

Regards

Susan Haslam | Senior Planning Officer
Scottish Environment Protection Agency

OFFICIAL

Scottish Fishermen's Federation ("SFF")



Our Ref: FH-Ayre-WFProj/24-0001

Your Ref: SCOP-0049

E-mail:

MD.MarineRenewables@gov.scot

16 August 2024

Dear Amy Woodward

Scottish Fishermen's
Federation

24 Rubislaw Terrace
Aberdeen, AB10 1XE
Scotland UK

T: +44 (0) 1224 646944

E: sff@sff.co.uk

www.sff.co.uk

SFF Response to Ayre Offshore Wind Farm Offshore EIA Scoping Report Consultation

This response to the above scoping request is presented by the Scottish Fishermen's Federation on behalf of the 450 plus fishing vessels in membership of its constituent associations, the Anglo Scottish Fishermen's Association, Fife Fishermen's Association, Fishing Vessel Agents and Owners Association, Mallaig & North West Fishermen's Association, Orkney Fisheries Association, Scottish Pelagic Fishermen's Association, the Scottish White Fish Producer's Association and Shetland Fishermen's Association. The Chair of NECRIFG was also consulted and agrees.

General comments

SFF note from section 3.2 (p27) of the Ayre OWF Project Scoping Report (SR) that Project Design Envelop (PDE) approach (also known as the 'Rochdale Envelope') will be adopted for the Environmental Impact Assessment (EIA) Report. Therefore, the following comments are based on the existing details provided in this SR and further comments will be shared in due course once the Project's design is finalised.

As the Development Array Area (DAA) covers an area of 200km² and the DAA and Export Cable Corridor (ECC) overlap with prime fishing and sensitive spawning and nursery grounds of commercially important fish species. In addition, Chapter 13 (Commercial Fisheries) of the SR states that the annual fishing value (2018 – 2022) from the Ayre OWF project study area is c. £8.7 million with 96% landed by Scottish vessels. Considering the fact that the Development would use floating foundation WTGs (which is a no take zone for most of the fishing activities), **SFF strongly objects to this project.**

Specific Comments

Wind Turbine Spacing

Members:

Anglo Scottish Fishermen's Association · Fife Fishermen's Association · Fishing Vessel Agents & Owners Association (Scotland) Ltd · Mallaig & North-West Fishermen's Association Ltd · Orkney Fisheries Association · Scottish Pelagic Fishermen's Association Ltd · The Scottish White Fish Producers' Association Ltd · Shetland Fishermen's Association

VAT Reg No: 605 096 748

SFF notes from section 3.5 (p30) that it is expected Wind Turbine Generators (WTG) will be spaced a minimum of 826 m apart. In order for fishing activities and navigation to continue within Array area, SFF would suggest higher capacity WTG to be used with a minimum spacing of 1.5km.

Wind Turbine Generator (WTGs) foundation footprint

SFF also note from sub-section 3.5.10 'Floating Foundations' that the preferred floating foundation types that are considered feasible for the Project are semi-submersible, and tension-leg platform (TLP). Being concerned of the spatial footprint of floating WTGs and the potential snagging hazard that their moorings system creates to fishing vessels, SFF's preferred WTG floating foundation option is TLP (with Vertical Tendon vs Tilted Tendon mooring systems), since they have lesser spatial footprint on the seabed.

Offshore Substation Platforms (OSPs) and Subsea Collectors (SC)

The SFF note from sections 3.6 and 3.5 that 3 OSPs and 20 SCs (fixed foundation) will be built within the Array Area. Considering the spatial footprint and disruption the OSPs cause to the fishing industry, SFF require to be consulted on the site selection and final design of OSPs for the Development.

Inter-Array Cable (IAC)- Dynamic section

SFF note from sub-section 3.5.32 (p42) that where Floating Foundations are used, dynamic inter-array cables ('Lazy S') may be required. Considering the footprint of the dynamic IACs sections, SFF's preferred configuration is free hanging vs lazy "S" and steep wave.

Cable footprint and Seabed Spawning Grounds Disturbance

SFF note from sections 3.5 and 3.6 that a total length of c.610km IAC, interconnector and export cables will be utilised, with a 25m maximum width of seabed disturbed by cable installation (per cable). This results to a total area of c.15.25km² seabed to be disturbed which will have vast environmental impacts especially destruction of spawning ground. SFF wonder how this impact is considered/calculated and addressed as the overall impact of the Development on seabed. It should be noted that similar seabed disturbance will also result from OSPs and anchor footings.

SFF furthermore note from sub-section 10.4.14 (p169) that the Scoping Boundary including both the DAA and ECC totally overlaps with the spawning and nursery grounds of some commercially important demersal and pelagic fish species (including, cod, haddock, whiting, herring and sandeel). Therefore, we propose any survey activities and other seabed disturbances should be undertaken outwith spawning and nursery periods of the above-mentioned fish species to avoid juvenile fish mortality.

SFF note from sub-sections 9.4.3 (p128, Benthic Ecology) that the Local Benthic Ecology Study Area seabed is suitable for herring spawning. As the mentioned areas are suitable for herring spawning, the SFF are concerned about the Development impacts on all commercial value fish species in the area, especially the Development impacts on the herring which are also particularly sensitive to noise impacts as they have swim bladders which are involved in hearing.

We are of the view that any activities on herring spawning habitat are prohibited based on the 'ICES Advice on fishing opportunities, catch, and effort Greater North Sea ecoregion' published 31 May 2024. Therefore, SFF propose the above-mentioned ICES advice to be taken into account and acted upon at determination stage.

The link to ICES advice on Greater North Sea herring is provided as follows: [North Sea herring ICES Advice](#)

Cable Burial and Protection

SFF note from sections 3.5 and 36 that IAC, interconnector and export cables will be trenched and buried. Cables for which optimal burial depths are not achievable may be subject to secondary protection measures such as rock placement or installation of concrete mattresses and grout bags.

Being concerned for fishermen's safety, first of all, SFF would suggest to the Applicants to make all efforts to reach the required depth of cable burial and avoid using cable protection measures as much as possible since the volume of cable protection mass will disrupt the marine habitat and would create a snagging hazard for fishing vessels within the array area.

In terms of using cable protections, SFF is opposed to using concrete mattresses and rock bags in open water since they create severe snagging hazards for bottom trawl fishing vessels and static gears. SFF's preferred cable protection measure is rock protection considering industry standard rock size (1"- 5") with a 1:3 profile followed by an over trawl sweep alongside a long-term monitoring programme.

In terms of crossing points, as they create obstacles and snagging hazards for the fishing industry, SFF would suggest that the cable crossing should be avoided as much as possible otherwise the design of cables and pipelines crossing points should be consulted on with the fishing industry to ensure their impacts are mitigated.

Boulder Clearance

SFF notes from the SR that pre-construction activities result in boulder clearance. Since the relocation of boulders from their natural positions and re-positioning them on a new substrate causes snagging hazards for fishing vessels, SFF would suggest avoiding the relocation of boulders as much as possible. However, where boulder relocation is unavoidable, we recommend the new locations/coordinates of the relocated boulders should be recorded and shared with fishermen. Fishermen require geographical readings to decimal of a minute format (3 decimal places sufficient) rather than going down to actual seconds and the datum should be WGS84 rather than ED50.

Wet Storage

SFF notes from section 3.9 (p50) that there is the potential need for wet storage to facilitate construction of the Proposed Development by the Applicant or ports and/or technology providers. SFF would like to be consulted on the site selection of the Wet Storage to ensure it is sited outwith fishing areas, fish spawning and nursery grounds and also fishing vessels transit routes to avoid any disruption to fishing activities from the transportation of infrastructures from Wet Storage to the proposed Development.

Decommissioning

SFF notes from section 3.12 'Decommissioning' (p53) that the Applicant is required by the Energy Act 2004 and the Scotland Act 2016, to provide a Decommissioning Programme (DP). Specific details on the decommissioning activities are not known at this stage but are anticipated to be generally a reverse of the installation process.

To reiterate fishing vessels safety concerns, SFF would like to see that all development related infrastructures are recovered/removed to shore followed by over-trawl sweeps (seabed sweeps

using fishing gears). The seabed must be restored to its pre-development condition post-decommissioning, and ensure it is safe for fishing operations to fully resume in the area.

EIA Methodology

SFF note from section 4.5.17 'Evaluation of Significance of Effect' that both the magnitude of an impact and the sensitivity of its receptor will be considered when determining the significance of an effect. This may be using qualitative or quantitative methods and will be informed by expert judgement and supported by clear rationale.

SFF is of the view that there are no approved guidelines to set realistic criterion to define the magnitude of impact and sensitivity of receptors for commercial fisheries and referring it to 'expert judgement' would be unrealistic and misleading. Therefore, guidelines need to be adopted in consultation with the fishing industry representatives to address this issue.

In addition, SFF would like to see that the impact of the Development is assessed on individual fishing vessels affected by the Development versus the whole fleet/fishery. We would also like to see development impact extended to the onshore supply chain and include fish/shellfish processors.

Ch. 9 Benthic Ecology

SFF notes from Table 9.5 (p149) that 'Impacts to benthic ecology due to heat from subsea electrical cables' has been scoped out. The Applicant has provided references to limited studies on this topic that some of which show that electrical cables emit heat. As there is no robust scientific evidence to reject the impacts of heat on benthic ecology; therefore, SFF would like to see the 'Impacts to benthic invertebrates due to thermal emissions from subsea electrical cables' to be scoped in since any temperature change in the invertebrate's habitat would have adverse effects on their behaviour and increase their mortality rate.

Ch. 10. Fish and Shellfish Ecology

SFF is not content with scoping out the "Accidental pollution to the surrounding environment" because if a vessel sank during any of the phases of the project life-span then an accidental release of pollutants would occur. Therefore, we would propose the 'Accidental pollution to the surrounding environment' to be scoped in.

Ch. 13. Commercial Fisheries

SFF proposes the following to be considered for the Commercial Fisheries chapter:

Worst Case Scenario

The EIA should take a precautionary approach/worst case scenario by assuming that fishing cannot occur within the floating wind farm.

Data Set/source

SFF appreciates the Applicants commitment to use pre-Brexit data in the EIA. We reiterate the importance of pre-Brexit data to be utilised for the EIA Report to present a realistic baseline of fishing activities within the study area, as some types of fisheries such as small haddock have stopped post Brexit.

Fishing plotter data from fishermen, SFF and associations should be used as AIS and VMS data cannot represent all the actual fishing activities within the study area. In general collection of fishing

plotter data from the fisheries organisations, and any specific data from smaller vessels that are not required to use AIS or VMS is recommended.

Embedded Mitigation

SFF has the following comments on the proposed embedded mitigation:

- SFF would propose 'the Fisheries Management and Mitigation Strategy (FMMS)' to be developed and adopted pre-consent in consultation with fishing industry to ensure all fishing industry's concerns are considered and addressed accordingly.
- We request that all NtMs are issued in sufficient time to avoid any disruption to fishing activities in the intended area. Fishermen require geographical readings to a decimal of a minute format (3 decimal places sufficient) rather than going down to actual seconds and the datum should be WGS84 rather than ED50.
- We propose also adding the 'dropped object' to the Kingfisher Bulletin App if a potential hazard exists for fishers.

We would propose the following Embedded Mitigations to be considered:

- As part of the proposed commitments, there is no measure for disruption payments for fishing vessels. No reference has been made about mitigation once operational and loss of fishing opportunities to the fishing industry within the floating section of the proposed array areas. SFF proposes that a cooperation agreement should be considered for both static and mobile gears where they are required to be temporarily relocated. A long-term compensation mechanism should be put in place for those fishermen who are excluded from fishing within the array areas.
- Utilise the services of an O.F.L.O with sufficient knowledge of fisheries and the fishers that utilise the development area.

Ch. 1. Shipping and Navigation

SFF proposes that 'wet storage' should also be scoped into the assessment due to the potential S&N issues this could raise.

We also note that the applicant had undertaken two vessel traffic surveys this in July for summer and December for winter. SFF is of the view that during these periods the surveys would fail to encompass the majority of the pelagic sectors fishing activities in turn not highlighting them in transit routes. For example, the blue whiting fishery, where vessels transit through the Pentland Firth to the fishing grounds off Ireland and to their processing factory, nor the amount of international pelagic vessels which utilise this route. Therefore, we would the Applicant to utilise fishing data from fishermen to gain a realistic track of fishing vessels activities at the study area.

In conclusion, SFF stresses that our primary concern is protecting the rights of fishermen to safely undertake their trade, and this is the cornerstone of our response. Our position is that fishing activities should continue unaffected and unharmed post-development. If impacted fishermen are denied the right to earn their living, SFF will not support the proposal of any windfarm developments.

Best regards

Mohammad Fahim Hashimi

**Offshore Energy Policy Manager
Scottish Fishermen's Federation**

Scottish Water

Wednesday, 10 July 2024



Marine Licensing
375 Victoria Road

Aberdeen

Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number - 0800 3890379
E-Mail - DevelopmentOperations@scottishwater.co.uk
www.scottishwater.co.uk



Dear Customer,

**Ayre Offshore Wind Farm Renewables Wind, 22 km from, Orkney, KW17 2RL
Planning Ref: SCOP-0049
Our Ref: DSCAS-0113376-SM2
Proposal: REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL
IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017 - REGULATION 13
AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT
ASSESSMENT) (SCOTLAND) REGULATIONS 2007 -
REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT
ASSESSMENT) (SCOTLAND) REGULATIONS 2017-(collectively referred to as
the “EIA Regulations”)**

Please quote our reference in all future correspondence

Scottish Water has no objection to this planning application. The applicant should be aware that this does not confirm that the proposed development can currently be serviced.

Please read the following carefully as there may be further action required. Scottish Water would advise the following:

Drinking Water Protected Areas

A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity.

Next Steps:

- **Non Domestic/Commercial Property:**

Since the introduction of the Water Services (Scotland) Act 2005 in April 2008 the water industry in Scotland has opened to market competition for non-domestic customers. All Non-domestic household customers now require a Licensed Provider to act on their behalf for new water and waste water connections. Further details can be obtained at www.scotlandontap.gov.uk

- **Trade Effluent Discharge from Non-Domestic Property:**

Certain discharges from non-domestic premises may constitute a trade effluent in terms of the Sewerage (Scotland) Act 1968. Trade effluent arises from activities including; manufacturing, production and engineering; vehicle, plant and equipment washing, waste and leachate management. It covers both large and small premises, including activities such as car washing and laundrettes. Activities not covered include hotels, caravan sites or restaurants.

If you are in any doubt as to whether the discharge from your premises is likely to be trade effluent, please contact us on 0800 778 0778 or email TEQ@scottishwater.co.uk using the subject "Is this Trade Effluent?". Discharges that are deemed to be trade effluent need to apply separately for permission to discharge to the sewerage system. The forms and application guidance notes can be found [here](#).

Trade effluent must never be discharged into surface water drainage systems as these are solely for draining rainfall run off.

For food services establishments, Scottish Water recommends a suitably sized grease trap is fitted within the food preparation areas, so the development complies with Standard 3.7 a) of the Building Standards Technical Handbook and for best management and housekeeping practices to be followed which prevent food waste, fat oil and grease from being disposed into sinks and drains.

The Waste (Scotland) Regulations which require all non-rural food businesses, producing more than 5kg of food waste per week, to segregate that waste for separate collection. The regulations also ban the use of food waste disposal units that dispose of food waste to the public sewer. Further information can be found at www.resourceefficientscotland.com

I trust the above is acceptable however if you require any further information regarding this matter, please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,

Ruth Kerr

Development Services Analyst

PlanningConsultations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

Supplementary Guidance

- Scottish Water asset plans can be obtained from our appointed asset plan providers:
 - Site Investigation Services (UK) Ltd
 - Tel: 0333 123 1223
 - Email: sw@sisplan.co.uk
 - www.sisplan.co.uk
- Scottish Water's current minimum level of service for water pressure is 1.0 bar or 10m head at the customer's boundary internal outlet. Any property which cannot be adequately serviced from the available pressure may require private pumping arrangements to be installed, subject to compliance with Water Byelaws. If the developer wishes to enquire about Scottish Water's procedure for checking the water pressure in the area, then they should write to the Development Operations department at the above address.
- If the connection to the public sewer and/or water main requires to be laid through land out-with public ownership, the developer must provide evidence of formal approval from the affected landowner(s) by way of a deed of servitude.
- Scottish Water may only vest new water or waste water infrastructure which is to be laid through land out with public ownership where a Deed of Servitude has been obtained in our favour by the developer.
- The developer should also be aware that Scottish Water requires land title to the area of land where a pumping station and/or a Sustainable Drainage System (SUDS) proposed to vest in Scottish Water is constructed.
- Please find information on how to submit application to Scottish Water at our Customer Portal.

Sport Scotland

From: [MD Marine Renewables](#)
To: [REDACTED](#)
Cc: [REDACTED](#)
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 07 August 2024 10:38:23
Attachments: [image001.png](#)

Hello Amy,

Thank you for confirming a nil response from sportscotland.

I can confirm MD-LOT has consulted RYA as part of this scoping consultation. All representations, including the RYA, to the scoping consultation will be published on our external facing website, [Marine Scotland Information](#), once MD-LOT has issued its scoping opinion.

Many thanks,
Toni-Marie

Toni-Marie McGinn (she/her)
Marine Licensing and Consenting Casework Manager, Licensing Operations Team, Marine Directorate
Scottish Government, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU
[Redacted]

The Scottish Government



Scottish Government
Riaghaltas na h-Alba

**In the service
of Scotland**



Integrity



Inclusivity



Innovation



Collaboration



Kindness

To see how we use your personal data, please view our [Marine licensing and consenting: privacy notice - gov.scot \(www.gov.scot\)](#)

*I am currently working from home, I'm best contacted by email. Please note my normal working hours are **Monday – Friday, 08:00 – 16:00**. If you receive this email late at night or early in the morning – it means I am working flexibly. Flexibility works for me, but please do not feel that you should have to pick this up outside of your own normal working hours.*

From: Redacted
Sent: Friday, August 2, 2024 3:48 PM
To: MD Marine Renewables <MD.MarineRenewables@gov.scot>
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024

Hi Amy

Confirming a nil return on this from **sportscotland**. I gather RYAS have been consulted through

the process and have no concerns.

Thanks,
Kerry

REDACTED

The Highland Council

From: [REDACTED](#)
To: [MD Marine Renewables](#);
Cc: [Epc](#)
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 08 August 2024 10:27:36
Attachments: [image001.png](#)

Morning Toni

Thank you for consulting Highland Council. I can confirm that we do not intend to provide any comment on the scope of the forthcoming EIA.

Regards

Peter Wheelan
REDACTED

Follow up documentation for existing planning applications must be submitted via the 'Post Submission Additional Document' (PSAD) online form, quoting the correct application reference number at [ePlanning.scot](#). If your submission relates to the satisfaction of planning conditions for a National or Major development please upload the form available at <https://shorturl.at/APQT9> with your PSAD submission. This advice is given without prejudice to the future consideration of and decision on any application received by the Council. Register at consult.highland.gov.uk to be kept updated on Development Plan documents in Highland.

From: MD.MarineRenewables@gov.scot <MD.MarineRenewables@gov.scot>

Sent: Wednesday, August 7, 2024 11:34 AM

To: [Epc](mailto:epc.Planning@highland.gov.uk) <epc.Planning@highland.gov.uk>

Cc: [Redacted](#)

Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind

NE2 site - Scoping consultation - Response required by 3 August 2024

CAUTION: This email was sent from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Good morning Rebecca,

Orkney Islands Council has been consulted on the below scoping opinion.

Can you confirm if The Highland Council also intends to respond to the Ayre Offshore Wind Farm scoping opinion or is the intent to submit a nil response?

Please note the consultation end date for this scoping has since passed.

Many thanks,
Toni-Marie

Toni-Marie McGinn (she/her)
Marine Licensing and Consenting Casework Manager, Licensing Operations Team, Marine Directorate
Scottish Government, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU
E: [Redacted]

The Scottish Government

From: Epc <epc.Planning@highland.gov.uk>

Sent: Monday, July 8, 2024 12:38 PM

To: MD Marine Renewables <MD.MarineRenewables@gov.scot>

Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024

Good afternoon,

Thank you for your email. Please email Orkney Islands Council with the below application.

Kind Regards

Rebecca Martin
Redacted

Transport Scotland

Amy Woodward
Marine Directorate
Scottish Government
Victoria Quay
Edinburgh
EH6 6QQ

Your ref:
SCOP 0049

Our ref:
GB01T19K05

Date:
26/08/2024

MD.MarineRenewables@gov.scot

Dear Sirs,

**REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2017**

**REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT
ASSESSMENT) (SCOTLAND) REGULATIONS 2007**

**REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT
ASSESSMENT) (SCOTLAND) REGULATIONS 2017**

AYRE OFFSHORE WIND FARM - SCOTWIND NE2 SITE - SCOPING CONSULTATION

With reference to your recent correspondence on the above development, we acknowledge receipt of the Scoping Report (SR) prepared by RPS in support of the above development.

This information has been passed to SYSTRA Limited for review in their capacity as Term Consultants to Transport Scotland – Roads Directorate. Based on the review undertaken, Transport Scotland would provide the following comments.

Proposed Development

The proposed development of the Ayre Offshore Wind Farm (OWF) comprises up to 67 turbines, a network of up to 185km of Inter-Array Cables (IACs), up to 60km of Interconnector Cables and up to 3 Offshore Substation Platforms (OSPs). We note that the applicant intends to submit separate consents, licences, and permissions for the Offshore and Onshore Infrastructure of the project, and the current SR relates solely to the Offshore Infrastructure.

The site is located 22 km from the Orkney eastern coast, with the closest trunk roads to the site are the A9(T) and A99(T) at Wick.

Assessment of Environmental Impacts

Given that the SR presents the proposed methodology for the assessment of offshore elements only, we can confirm that we have no comment to make on the Offshore Scoping Report itself.

We note, however, that the SR indicates that turbines, foundations and offshore structures will be constructed and assembled at a port(s) before being transported to the Array Area via specialist installation vessels for installation and commissioning.

We also note that the onshore application will be supported by a separate Onshore Environmental Impact Assessment (EIA) Report and associated planning documents. Transport Scotland would state that in the event that onshore activities are to take place on the Scottish Mainland, we would expect the Onshore EIA will include an assessment of the potential Traffic and Transport effects on the trunk road network.

I trust that the above is satisfactory but should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA's Glasgow Office can assist on 0141 343 9636.

Yours faithfully

REDACTED

George Smith

**Transport Scotland
Roads Directorate**

cc Alan DeVenny – SYSTRA Ltd.

UK Chamber of Shipping

From: [REDACTED](#)
To: [MD Marine Renewables](#)
Subject: RE: SCOP 0049 - Thistle Wind Partners Limited - Ayre Offshore Wind Farm - Scotwind NE2 site - Scoping consultation - Response required by 3 August 2024
Date: 15 July 2024 13:35:12
Attachments: [image001.png](#)

Dear Marine Renewables Team,

The UK Chamber of Shipping welcomes the opportunity to respond to the Ayre Offshore Wind Farm scoping report. The Chamber of Shipping, along with other navigational stakeholders was engaged by the developers for a pre-scoping workshop which was held on 3 March 2024 and so has some familiarity with the project.

The Chamber, given its interest in Commercial Shipping and Navigation, has chosen to limit its review and response to Chapter 14 – Shipping and Navigation, and respond to a set of stock set of questions often found included in scoping reports. Please find our response to those questions below:

- **Do you agree with the study area (s) defined for Shipping and Navigation?**

The 10nm buffer to the array area and 3nm around cable corridor is industry standard for study area and accepted.

- **Do you agree with the use of those data sources to inform the Offshore EIA?**

The list is broadly as expected.

- **Are there any additional data sources or guidance documents that should be considered?**

The Chamber welcomes the use of 20 years of MAIB accident data at NRA analysed given its availability and the long-term development of the proposed wind farm.

The Scotland Marine Plan and Sectoral Marine Plan for Offshore Wind, in particular noted importance of lifeline ferry services.

The Chamber recommends the project to fully consider the unique risk factors of floating offshore wind projects, as detailed in the NASH Maritime report for ORE Catapult.

- **Do you agree that all receptors related to Shipping and Navigation have been identified?**

Movement of unusual structures, e.g. towing of rigs should also be specifically considered.

- **Do you agree with the proposed study areas identified for the Shipping and Navigation receptors?**

The standard 50nm study area for cumulative impacts is included and accepted.

- **Do you agree with the impacts scoped for Shipping and Navigation and in particular those relating to the use of floating technology?**

Yes, however in the Chamber's view loss of station and loss of connection from towing vessel is an impact needing consideration.

The Chamber also recommends that wet storage areas for floating turbines need careful examination and do not appear to have been considered.

- **Do you agree the embedded mitigation is appropriate, or are there other measures that should be included?**

As expected, however project may wish to consider emergency towing assets or vessels with such capability in proximity should there be a loss of station.

- **Do you agree with the proposed assessment methodology related to Shipping and Navigation?**

Yes industry standard.

- **Are there any additional shipping and navigation organisations that you would recommend be consulted?**

No the list in 14.7.4 looks comprehensive.

The Chamber hopes these comments are of use to Scottish Government and the developer and looks forward to future engagement.

Yours faithfully,

Robert

Robert Merrylees

Policy Manager (Safety & Nautical) & Analyst

UK Chamber of Shipping

30 Park Street, London, SE1 9EQ

REDACTED

[Redacted](#)

www.ukchamberofshipping.com



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