Aberdeen Airport

From:	#ABZ Safeguarding
To:	MS Marine Renewables
Subject:	RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.
Date:	04 April 2022 14:53:02
Attachments:	image085669.png image208710.png image526360.png image725833.png image710527.png image161366.png image487876.png

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This proposal is located outwith the consultation area for Aberdeen Airport. As such we have no comment to make and need not be consulted further.

Kind regards

Kirsteen

Aberdeen International Airport

#ABZ Safeguarding
abzsafeguard@aiairport.com
www.aberdeenairport.com

Aberdeen International Airport Limited, Dyce, Aberdeen, AB21 7DU

BT

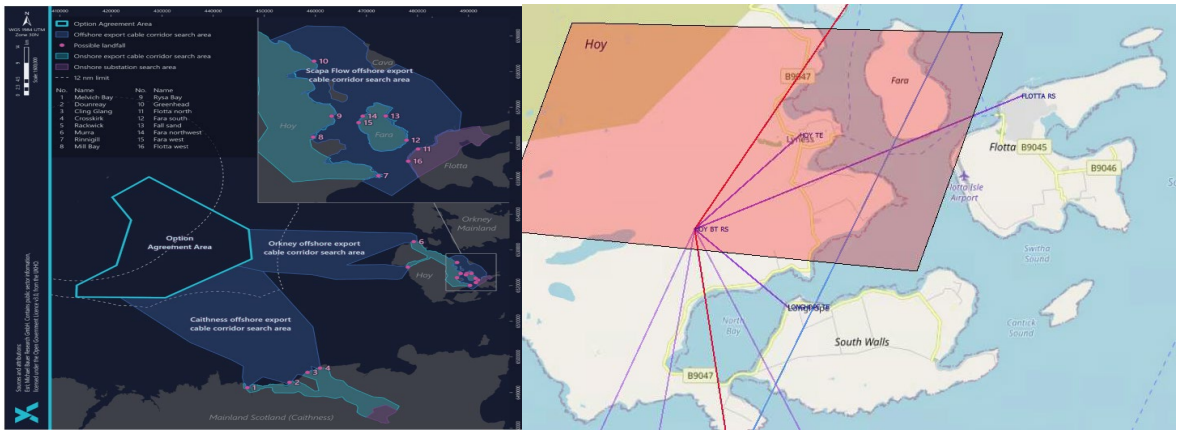
From: radionetworkprotection@bt.com
To: MS Marine Renewables
Cc: England D (Debbie); Ross R (Rebecca); jane.renwick@scot.gov
Subject: RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.WID11806
Date: 08 April 2022 09:10:45
Attachments: image001.png
image004.png
image005.png
image006.png
image007.png
image008.png

OUR REF: WID11806

Thank you for your email dated 30/03/2022.

We have studied this proposal using figure 1.1 from the scoping report online, with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that, the Project indicated will likely cause interference to BT's current and presently planned radio network. See below screen shot of radio links in solid red, blue and purple lines. Please let us know when you have the co-ordinates for the turbines and we will carry out an investigation to see if they will cause interference. We require 100 metre clearance of any structure that passes our radio path to pass a proposal. We have also included the results below which shows the co-ordinates and antenna heights of the links which may assist you. However, it is best we have the exact co-ordinates of the proposed structures to carry out an assessment when they are available. If we have missed them apologies, please let us know where these are available.



Turbine	Tx Name	Tx NGR	Rx Name	Rx NGR	Link ID	Ofcom Ref	Path Length(km)	Frequency Band	Tx Grnd Hght (m)	Rx Grnd Hght (m)	Tx Ant Hght (m)	Rx Ant Hght (m)	Tx Bearing (deg)	Dist (m)	1st Fml	100 m
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000349	484748	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000351	484749	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000353	484747	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000355	484746	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000357	484745	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000359	484744	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000361	484743	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THRUMSTER BT RS STAYED	ND3437245602	6000363	484742	47.41	6GHz LOWER	149	71	15	77.9	171.23	3.31	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000365	484757	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000367	484756	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000369	484755	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000371	484754	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000373	484753	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000375	484752	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000377	484751	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	HOY BT RS	ND2800092580	WIDEFORD HILL XRF BT RS	HY4127311386	6000379	484750	23.01	6GHz LOWER	149	171.07	10.8	14.3	34.1	0.02	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	11000588	485934	51.57	11GHz	209	132	11.9	9	206.31	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	11000589	486676	51.57	11GHz	209	132	11.9	9	206.31	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	11000590	485935	51.57	11GHz	209	132	11.9	9	206.31	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	11000591	486677	51.57	11GHz	209	132	11.9	9	206.31	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	11000592	485936	51.57	11GHz	209	132	11.9	9	206.31	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	11000594	485937	51.57	11GHz	209	132	11.9	9	206.31	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	6500801	480804	51.57	6GHz UPPER	209	132	16.8	13.7	206.32	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	6500803	480805	51.57	6GHz UPPER	209	132	16.8	13.7	206.32	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	6500805	480807	51.57	6GHz UPPER	209	132	16.8	13.7	206.32	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	6500807	480806	51.57	6GHz UPPER	209	132	16.8	13.7	206.32	0.10	Fail	Fail
WID11805	WIDEFORD HILL XRF3	HY4136911687	OLRIG HILL BT RS	ND1776965823	6500809	480808	51.57	6GHz UPPER	209	132	16.8	13.7	206.32	0.10	Fail	Fail
WID11805	BARROCK TE	ND2400072050	HOY BT RS	ND2800092580	5731	479615	20.92	18GHz	23	149	5	13.3	9.89	0.72	Fail	Fail
WID11805	FLOTTA RS	ND3542795444	HOY BT RS	ND2800092580	8209	496233	7.95	18GHz	16.28	149	15	16	247.92	0.13	Fail	Fail
WID11805	HOY BT RS	ND2800092580	FLOTTA RS	ND3542795444	970690	398914	7.95	18GHz	149	16.28	13	15	67.81	0.13	Fail	Fail
WID11805	HOY BT RS	ND2800092580	FLOTTA RS	ND3542795444	980690	398965	7.95	18GHz	149	16.28	13	15	67.81	0.13	Fail	Fail
WID11805	HOY BT RS	ND2800092580	HOY TE	ND3041094650	970691	398915	3.17	18GHz	149	15	13	5	48.22	0.74	Fail	Fail
WID11805	HOY BT RS	ND2800092580	HOY TE	ND3041094650	980691	398966	3.17	18GHz	149	15	13	5	48.22	0.74	Fail	Fail
WID11805	HOY BT RS	ND2800092580	LONGHOPE TE	ND3007090790	970692	398916	2.73	18GHz	149	10	16	5	129.84	0.71	Fail	Fail
WID11805	HOY BT RS	ND2800092580	THURSO DUNNET HEAD	ND2025076820	12616	1158683	17.56	18GHz	149	90	9	10	205.08	7.75	Fail	Fail
WID11805	HOY TE	ND3041094650	HOY BT RS	ND2800092580	10599	811715	3.17	18GHz	15	149	4.5	14	228.26	0.74	Fail	Fail
WID11805	JOHN O GROATS TE	ND3798072750	HOY BT RS	ND2800092580	9212	511367	22.19	18GHz	23	149	8	12	332.41	0.84	Fail	Fail
WID11805	LONGHOPE TE	ND3007090790	HOY BT RS	ND2800092580	8915	506158	2.73	18GHz	10	149	5	14.5	309.87	0.71	Fail	Fail
WID11805	LONGHOPE TE	ND3007090790	HOY BT RS	ND2800092580	7704	492963	2.73	18GHz	10	149	5	16	309.87	0.71	Fail	Fail

Regards

Lisa Smith
Engineering Services – Radio Planner
Networks

Highlands and Islands Airports Limited (HIAL)

From:	HIAL Safeguarding
To:	MS Marine Renewables
Cc:	England D (Debbie); Ross R (Rebecca); Renwick J (Jane)
Subject:	RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.
Date:	20 May 2022 08:52:25
Attachments:	image001.png image003.png image005.png

Your Ref: SCOP-0012
Our Ref: 2022/141/KOI

Dear Sir/Madam,

Proposal: Request for scoping opinion for proposed section 36 and marine licence applications for the West of Orkney offshore windfarm.
Location: To be located 23km North of the Caithness Coast and 28km West of Hoy, Orkney Coast.

With reference to the above request for a scoping opinion and following the supply of the OAA in shape file format; I can confirm that the West of Orkney offshore windfarm does not impact the safeguarding criteria of any Highland and Islands Ltd Airport. Therefore, HIAL would not object to the windfarm based on the information received to date.

I also understand that the onshore wind turbine fabrication will be a separate consultation/s and planning application/s.

Yours faithfully,

Ed

Ed Boorman
HIAL Safeguarding (Acting for and on behalf of Highlands & Islands Airport Ltd)

m: [redacted]
e: hialsafeguarding@traxinternational.co.uk
e: safeguarding@hial.co.uk

From: HIAL Safeguarding <hialsafeguarding@traxinternational.co.uk>
Sent: 01 April 2022 13:44
To: MS.MarineRenewables@gov.scot
Subject: RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.

Your Ref: SCOP-0012

Our Ref: 2022/141/KOI

Dear Sir/Madam,

Proposal: Request for scoping opinion for proposed section 36 and marine licence applications for the West of Orkney offshore windfarm.
Location: To be located 23km North of the Caithness Coast and 28km West of Hoy, Orkney Coast.

With reference to the above request for a scoping opinion. Highlands and Islands Airports Limited (HIAL) has the following comments to make at this stage:

1. Please may HIAL be supplied with a boundary of the proposed development in the form of a KML or SHP file format? So HIAL may verify the accuracy of the following statement:
   The nearest major civil airports to the OAA are Kirkwall Airport at 31 NM (56 km) and Wick Airport at 38 NM (69 km) both of which are operated by HIAL. As the proposed Project's WTGs are outside the safeguarding area for both airports, coupled with the subsea nature of the export cables (located within the export cable search areas), this means that there will no impact on these airports' Instrument Flight Procedures (IFPs). ***2.10.4.1 OFFSHORE MARINE AREA.***

2. With reference to **1.3.5 Project Phase / 1.3.51 Construction / 1.3.5.1.1 Offshore / 7. The WTGs will be fabricated onshore and transported to the array area for installation.**

   It doesn't appear that the onshore fabrication area(s) has (have) been identified? If this is incorrect, please may I have the reference within the Scoping Report? If not identified, please can it be included in the aviation receptors? In specific regard to the WTG fabrication areas and WTG transport from the fabrication area to the offshore area being within airspace coincidental with any published Instrument Flight Procedure (IFP) to take into account the aerodrome's requirement to protect its IFPs. (CAP764 – Preplanning & Consultation.)

With reference to the specific Scoping Questions, 2.10.10:

- Do you agree that the existing data available to describe the military and aviation baseline remains sufficient to describe the physical environment in relation to the Project?
  No, see comment 1 & 2 above.
- Do you agree that the embedded mitigation described provides a suitable means for managing and mitigating the potential effects of the Project on the military and aviation receptors?
- **No, see comment 2 above.**
- Do you agree with the assessment of military and aviation receptors to be scoped out of the Project EIA?
- **No, see comment 1 & 2 above.**
- Do you agree with the proposed assessment methodology?
  No, as the WTG fabrication area and methodology of WTG transport to the offshore areas versus airspace coincident with HIAL Airport IFPs does not appear to have been considered in the scoping report.

If further clarification of these points is required please contact this office.

Yours faithfully,

Ed

Ed Boorman
HIAL Safeguarding (Acting for and on behalf of Highlands & Islands Airport Ltd)

m: [redacted]
e: hialsafeguarding@traxinternational.co.uk
e: safeguarding@hial.co.uk

Highlands and Islands Enterprise

From:	Gavin MacKay
To:	MS Marine Renewables
Cc:	jane.renwick@scot.gov; Ross R (Rebecca); England D (Debbie); HIE Corporate Relations
Subject:	RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.
Date:	28 April 2022 13:40:09

Dear Jane

Many thanks for sharing the Offshore Wind Power Ltd scoping report for our consideration and comment. We don't propose to respond to this on the basis that we expect our information requirements will consistently be met by even the minimum socio economic work scopes as is the case with this one. Other partners may desire detail in other areas of socio economic impact (such as those which have been scoped out by OWPL) and we'll encourage those partners to review and respond accordingly.

We will adopt this approach to future requests for views on EIA scoping i.e. "nil return" but will encourage local partners to highlight where they anticipate information gaps with the scoping reports as they're submitted by successful offshore wind developers.

Kind regards
Gavin

Gavin MacKay
Head of Energy Industries
Highlands and Islands Enterprise | Iomairt na Gàidhealtachd 's nan Eilean

DD: +44 (0)1463 383113 | Reception: +44 (0)1463 245245

Historic Environment Scotland

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

By email to:
ms.marinerenewables@gov.scot

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Jane Renwick
Marine Licensing and Consenting Casework Manager
Marine Scotland
150 Broomielaw
Glasgow
G2 8LU

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

Our case ID: 300057245
Your ref: SCOP-0012

28 April 2022

Dear Jane

Regulation 14 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Regulation 13 And Schedule 4 Of the Marine Works (Environmental Impact Assessment) Regulations 2007
SCOP-0012 – Offshore Wind Power Ltd – The West of Orkney – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast

Thank you for your consultation which we received on 01 April 2022 about the above scoping report. 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 authorities archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings. In this case, you should contact:

- **For The Highland Council:** Historic Environment Team, Glenurquhart Road, Inverness IV3 5NX or planning-conservation@highland.gov.uk
- **For Orkney Islands Council:** Julie Gibson, Orkney Islands Council, Archaeology Centre, Orkney College, Weyland, Kirkwall KW15 1LX or Julie.Gibson@uhi.ac.uk

Proposed Development
The proposed development is for an offshore windfarm consisting of up to 125 turbines with a maximum height of 370 metres. The windfarm will be connected to the national grid by a cable which will make landfall in Caithness, to be connected into the electricity substation at Spittal. The windfarm will also be connected to the green hydrogen terminal at Flotta, Orkney.

Scope of assessment
This consultation response addresses the scope of the assessment as it relates to the proposed offshore works. We note and welcome that many of the comments which we made in a pre-application letter dated 26 November 2020 have been taken into account in the development of the proposals to date. However, we have some additional comments to make on the offshore aspects of the proposal which I have set out below.

Offshore works
The offshore works cover not only the turbine array itself (located 20-25km north of Caithness and 30km south-west of Hoy) but also up to five subsea cables linking the turbines to the grid in Caithness as well as to a green hydrogen hub on Flotta in Orkney.

The subsea cables are focused within three broad corridor search areas:

- one to the north coast of Caithness with potential landfall options at Melvich, Dounreay, Cling Glang and Crosskirk
- one to the west coast of Orkney with potential landfall options at Murra and Rackwick on the Island of Hoy
- one across Scapa Flow with potential landfall options on the east coast of Hoy (Greenhead, Rinnigill, Mill Bay; and Rysa), Fara (Fara south, Fall sand, Fara northwest and Fara west) and Flotta (Flotta north and Flotta west).

The marine environment within Scapa Flow is described in section 2.9.4.2, and a list of charted wrecks is provided in table 2-56 of the scoping report. Please note that the area of search may also include HMS Vanguard (PoMRA) north of Flotta – it is referenced on Canmore but doesn't seem to appear in the table and is not referenced in the draft HMPA.

We note that the export cable route from Hoy to Flotta within Scapa Flow, as the search area presently overlaps with the draft HMPA that covers the remains of the German High Seas Fleet in the Rysa Little and Cava area. The exclusion of the Burra and Clestrain Sounds is welcomed, but the entirety of the proposed HMPA should be excluded from the area of search. The draft HMPA around the German High Seas Fleet lies partially within the area of search – that is the area between Rysa Little and Cava.

Whilst our comments at pre-app stage made reference to the overlap between the search area and the draft HMPA and the need for this to be avoided in the Burra Sound and Clestrain Sound, this is also an issue present with the draft HMPA that covers the remains of the German High Seas Fleet in the Rysa Little and Cava area. The search corridor should be amended to exclude the area covered by the draft HMPA.

We note and welcome the intention in the scoping report to include long-term changes within the scope of the assessment. This should include impacts from the offshore wind turbines on the Outstanding Universal Value of the Heart of Neolithic Orkney world heritage site. I note that this is identified as an issue to be included in the assessment in table 2-58 of the offshore scoping report. I note that this is also identified as an issue to be considered in table 4-40 of the Orkney onshore scoping report. Clear cross-referencing may help within the EIAR, but it would also be helpful for the developer to clarify their thinking on this issue in future correspondence.

Finally, Table 2-61 indicates that not only will the 2020 setting guidance be referenced, but also the outdated 2016 setting guidance could be relied upon. Given that the 2016 guidance has been entirely superseded by the 2020 guidance, it carries no weight and should neither be referenced nor relied upon as part of the assessment. We also note that the developer has referred to Orkney Islands Council's 2010 supplementary planning guidance for the Heart of Neolithic Orkney world heritage site. Orkney Islands Council should clarify the guidance which applies in this case.

Further information
Guidance about national policy can be found in our 'Managing Change in the Historic Environment' series available online at www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/managing-change-in-the-historic-environment-guidance-notes. Technical advice is available on our Technical Conservation website at https://conservation.historic-scotland.gov.uk/.
We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Adele Shaw and they can be contacted by phone on 0131 668 8758 or by email on Adele.Shaw@hes.scot.

Yours sincerely

Historic Environment Scotland

Marine Scotland Science

T: +44 (0)131 244 2500
E: MSS_Advice@gov.scot

Becca Ross
Marine Scotland Licensing Operations Team
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

13 June 2022

Offshore Wind Farm Ltd - West of Orkney Wind Farm - Scoping Advice

MSS have considered the Scoping Report submitted by Offshore Wind power Limited (OWPL) regarding the West of Orkney Windfarm, the response received from NatureScot (NS) on 27 May 2022 and the response received from the Royal Society for the Protection of Birds (RSPB) on 31 May 2022.

General comments

MSS consider that the project design envelope presented is too broad to allow specific advice and guidance to be provided. MSS note that at present there are several key aspects that have not yet been finalised, which restrict our ability to understand the overall footprint, design and corresponding range of impact pathways for the project. These include:

- The exact boundaries of the development, within the option agreement area
- The number and location of turbines and Offshore Substation Platforms (OSPs)
- The location and extent of cable export corridors and landfall sites
- Whether the project will use fixed or floating turbines, and the corresponding foundation types

MSS advise that if the project design envelope is not refined further, the list of data sources, species, impact pathways and mitigation that may be required to be scoped into the EIA process may be unmanageable.

In section 2.5.3.1. OWPL state, '*Ongoing consultation with MS LOT, MSS and NatureScot is proposed throughout the whole Offshore EIA process and discussion regarding survey findings and reporting and impact assessment outcomes will be encouraged to assist with refinement of turbine siting, offshore export cable routeing and landfall selection.'* MSS advise that ongoing consultation will be extremely resource intensive and unlikely to sustainable, particularly with such a wide ranging scoping report. Fundamentally, applicants should seek to provide with a sufficiently constrained project scope and adequate detail with which to evaluate the proposed project and assessment approaches.

Specific comments relating to each receptor group are provided below.

Marine Ornithology

Echoing NatureScot, MSS have concerns about the lack of detail contained in the Scoping Report. As NS point out, the range of potential scenarios of design, and lack of inclusion of key components of assessment methodology inhibit understanding of the potential effects that may occur. Overall the paucity of information, and vagueness surrounding the potential development design serve to limit the capacity in which MSS can offer advice to LOT beyond general (already widely available via guidance) comments. This lack of information increases uncertainty around potential project impacts.

Baseline characterisation and study area

OWPL have undertaken surveys from July 2020 but the specific area covered and to what extent cables search areas have been considered is not provided. The recommendation from NS regarding the standing advice that full seabird breeding seasons and non-breeding seasons are surveyed does not appear to have been followed. No summary data are provided on which to provide any further comment or inform advice. With surveys initiated almost two years ago, it would be reasonable to have expected some data from some of those surveys to have informed the Scoping Report.

With respect to the digital aerial surveys, MSS advise that information should be provided on the ability to detect smaller species such as storm petrels and if not, how the applicant expects to determine baseline characterisation for these species, presenting justification of their approach. A similar point is raised by RSPB regarding survey frequency and adequate representation of crepuscular species, and MSS support consideration of this.

MSS advise that the applicant should consider how to characterise baseline seabird occurrence in relation to cable routes and landfall. We are limited in further advice due to the large cable search area and the 16 potential landfall sites, some of which may have greater sensitivity than others. A consultant technical expert would assist the applicant to understand ornithological concerns at each of their potential cable options and MSS agree with NS that further surveys may be necessary in this respect.

MSS support the inclusion of great skua as a key species. As highlighted by RSPB, until further information is provided, all species should be considered of relevance. Regarding RSPB comments on puffin tracking, MSS wish to add that Francis Daunt has confirmed to MS that the comments attributed to him (page 163 Table 2-28) are incorrect. MSS consider it relevant to highlight this as the original ‘pers. comm.’ in the Scoping Report contradicts current rationale and progress towards effective puffin tagging.

Potential Impacts

MSS highlight again the lack of detail and large scope of the offshore assessment area as limiting in identification of key impact pathways, however we support NS suggestion that disturbance should be included in operation and maintenance.

We support both NS and RSPB comments that wet storage needs to be considered as a potential impact pathway. MSS also consider lighting to be a potential impact of concern and agree with NS reference should be made to the report forthcoming from MS[1]. MSS support NS suggestion that,

[1] View Notice - Public Contracts Scotland

where appropriate, embedded mitigation to reduce risk to birds should be considered with respect to lighting.

MSS highlight comments from RSPB and support the response that an air-gap of over 22 m is welcomed and could provide reduced risk of collision.

Regarding indirect pathways, MSS support comments made by both NS and RSPB regarding the impacts to prey from the development and associated infrastructure. MSS consider the approach set out in the scoping report to be insufficient, supporting both NS and RSPB in their request for a clear and informed assessment that characterises the ecology of the ecosystem in the Option Agreement Area (OAA) and Export Cable Corridors (ECC) relative to supporting habitats, fish ecology and trophic connectivity to seabirds. MSS support NS suggestion that beyond this minimum requirement there may be greater need to further assess linkages and potential consequences of impacts.

MSS support comments made by NS regarding prey and ghost fishing, requiring further consideration of these impacts as appropriate e.g., if floating turbines are selected.

Impact assessment

MSS agree with NS and RSPB that MRSea is the preferred method for modelling densities should data allow.

MSS support the use of the SNCB method to assess displacement effects, however SeabORD should be utilised where appropriate. Regarding displacement mortality, MSS support the suggested range of impacts provided by NS, noting there is an ORJIP project[2] on mortality rates currently underway, that on completion would need to have any changes in rates adopted by the SNCB. In agreement with NS and RSPB, further clarification on the mortality rates for fulmar, red throated diver, Arctic tern (and potentially other sensitive species) may be required as the project advances.

MSS note the question regarding gannet avoidance, and whether gannet should be only considered for displacement. MSS support both NS and RSPB on the current evidence and theory involving gannet and collision/displacement. We agree with NS that both should be assessed and should be additive. For gannet, MSS note RSPB suggest an avoidance rate of 98%, based on evidence of behavioural changes in the birds depending on the season. MSS support the assessment of this project to follow the SNCB guidance as provided by NS, however the 98% value could be provided for additional context. MSS support NS request on clarification of the area covered by the digital aerial surveys which commenced in July 2020.

MSS support the use of the stochastic CRM tool to provide full outputs, using Johnston et al (2014) corrigendum height data[3]. MSS, together with NS and RSPB, do not support the use of Bowgen and Cook 2018[4]. NS provide guidance in their response on current avoidance rates for consideration but note a revised position from the SNCB is likely. MSS support NS guidance on flight speeds, and highlight (as per RSPB response) that any data presented alongside the suggested guidance is clearly evidence-based, with a strong justification.

[2] ORJIP Offshore Wind: Improving quantification of mortality rates associated with displacement within the assessment process (QuMR) | The Carbon Trust

[3] Johnston, A., Cook, A., Wright, L., Humphreys, E. and Burton, N. (2014). Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. Journal of Applied Ecology. 51. 10.1111/1365-2664.12191.

[4] Bowgen, K. & Cook, A. (2018). Bird Collision Avoidance: Empirical evidence and impact assessments. JNCC Report No. 614, JNCC, Peterborough, ISSN 0963-8091

For migratory species, a tool is in development from MS and Crown Estate Scotland to assess migratory collision risk[5]. An assessment will be carried out by MS and their contractors using this tool to establish the need for individual projects to undertake bespoke analysis. Further detail can be provided to LOT on this as the project develops.

Regarding monitoring results, both NS and RSPB provide further comment here that MSS agree with, and therefore we add no further comment on this query.

MSS support the use of the NE PVA for population viability analysis, including age apportioning and sabbaticals considered where feasible, agreeing with NS that two time periods would be beneficial in interpretation of outputs. MSS agree with NS and RSPB that ratios (referred to in NS advice as 'counterfactuals') of both population size and growth rate are presented. Comparison of predicted and empirical growth rates is supported as model validation, in common with NS and RSPB, noting the limitation may be the availability of appropriate and relevant data. MSS support model tuning, however we do stress it must be reflective of biology with clear justification for each population and species.

Cumulative Impacts

MSS agree with NS and RSPB that potential cumulative impacts with developments on inshore waters such as harbour expansions needs consideration. MSS also support RSPB's comment that consideration may also be required, cumulatively, with onshore windfarms, depending on those species affected by the ultimate project design.

Marine Mammals

The applicant posed eight questions in section 2.6.10. Our specific responses to these questions are provided below, followed by more general advice on marine mammal issues.

1) Do you agree with the study area for marine mammals and other megafauna?

MSS agree with the study area encompassing the OAA and the associated offshore export cable search area, though we advise that any abundance estimates to be used in assessments need to be derived from an area at least as large as the area of potential impact. The applicant should ensure that impact pathways with a large spatial extent (e.g. impulsive underwater noise) are adequately covered by the study area and buffer. Without further details on piling strategy, MSS cannot confirm that the area covered by site-specific surveys is sufficient.

MSS broadly agree with the list of species to be included in the assessment:

- Harbour porpoise
- White beaked dolphin
- Risso's dolphin
- Minke whale
- Grey seal
- Harbour seal

[5] View Notice - Public Contracts Scotland

However, killer whales should be included in this list. As indicated in Section 2.6.4.1.1 of the Scoping Report, sightings data suggests killer whales regularly occur in the region. A new data stream being collected in the Pentland Firth and Orkney waters through ECOPredS (www.ecopreds.com) incorporates sightings reports, visual surveys and passive acoustic monitoring data to study killer whale foraging ecology. This project has already demonstrated killer whale presence in the area, and may be a useful additional source of information on this species in Orkney waters. MSS agree with NatureScot that common dolphin, Atlantic white-sided dolphin and humpback whale should also be included.

2) Do you agree that data sources identified (Table 2-37) are sufficient to inform the marine mammal and megafauna baseline section?

MSS broadly agree with the data sources listed, noting the additional sources highlighted in our advice and the advice of NatureScot. The extremely broad nature of the scoping report restricts our ability to comment on the realistic worst-case scenario of the project. There may be additional sources of information that may be useful as the project design envelope is refined.

MSS note that information on marine mammal abundance and distribution within and surrounding the development area is lacking. Site-specific surveys should ensure that the data collected are of a suitable quality to both characterise the site and inform quantitative impact assessments.

3) Are there any additional data sources or guidance documents that should be considered?

Thompson et al. (2019) may be useful for considering local harbour seal population estimates, which are particularly important for this management unit given the declining trajectories of the North Coast and Orkney Seal Management Area (SMA).

4) Do you agree with the suggested embedded mitigation measures and is this mitigation appropriate?

MSS note the applicants have committed to embedded mitigation measures for the wind farm construction such as a Piling Strategy (PS), an Environmental Management Plan (EMP) and a Vessel Management Plan (VMP). While we welcome the commitment to these to aid mitigation planning, we advise that such plans do not rule out the potential requirement for additional mitigation measures, depending upon the results of the impact assessment. We expect the list of embedded mitigation measures (Table 2-39), along with any additional mitigation that may be required following the assessment, will be refined once the project design envelope is finalised. At present, the design envelope is too broad to evaluate if the mitigation proposed is sufficient, but MSS recommend that a Marine Mammal Mitigation Plan is developed and adhered to. This should include both the offshore and Scapa Flow study areas as the impact pathways, and therefore the mitigation required, will potentially be very different for these two areas.

In the scoping report there is no mention of additional underwater noise abatement methods and technologies e.g. bubble curtains. MSS recommend that noise abatement methods for noisy activities, such as impact piling and detonation of unexploded ordnance (UXO), should be considered where practicable and discussed in the EIA report.

5) Do you agree all potential impacts have been identified for marine mammal and megafauna receptors?

MSS agree with the following relevant impact pathways that have been identified to be brought forward into the EIA:

- Injury and disturbance from underwater noise-generating activities (construction and decommissioning phases)
- Indirect effects of construction noise on marine mammal prey species (construction and decommissioning phases)
- Habitat change, including foraging opportunities (all phases)
- Displacement or barrier effects associated with physical presence of devices and infrastructure (operation phase)
- Entanglement with moorings (if floating WTG) (operation phase)

MSS agree with NatureScot that the following impact pathways should also be scoped in:

- Underwater noise from floating turbines (operation phase)
- Vessel collision (all phases)
- Disturbance due to physical presence of vessels (all phases)
- Disturbance due to underwater noise from vessels (all phases)
- Impacts to prey availability (all phases)

We note the applicant states potential effects of pre-construction surveys or UXO clearance to marine mammals will be fully considered and assessed as part of the EPS Licence and Marine Licence applications. This scoping report covers construction, operation and decommissioning phases. However, MSS advise that the EIA should also include pre-construction activities that are integral to the construction going ahead, such as geophysical surveys and UXO clearance. MSS recommends that clearance of UXO is also considered within a cumulative impact assessment for this project.

6) For the impacts which are scoped in, do you agree the methods described are sufficient to inform a robust impact assessment?

Site-specific density and abundance estimates beyond the standard aerial surveys will be required, however more detail is expected on how will this be collected for all species of interest. MSS advise that absolute densities will be required for quantitative assessments for activities producing impulsive noise (e.g. piling), and that the spatial extent across which marine mammal densities are estimated should cover the area of potential impact, as a minimum.

In agreement with NatureScot, given the early stages of surveying we recommend the use of PAM to augment aerial survey data (e.g. Thompson et al. 2015). While aerial surveys provide good spatial coverage of a site, they provide poor temporal coverage. Static PAM is complementary to this as it generally provides less spatial coverage, but much greater temporal coverage of presence/absence of small cetaceans (harbour porpoise and dolphin species). MSS would encourage the use of PAM to monitor baselines to ensure that abundance and distribution estimates can be more accurately assessed. Further, if monitoring stations are carefully located throughout the site, these data could provide the distribution and abundance models from HiDef with scalars for temporal changes in cetacean density, allowing proportion of missed animals during a survey to be estimated. There may be potential to use PAM to detect minke whales using broadband recorders (Risch et al. 2019). Minke whales are known to occur in this area and aerial surveys have been shown to be ineffective at detecting this species (Webb et al., 2018), possibly due to their long dives.

7) Do you agree with the reasoning behind scoping out impacts highlighted as such in Table 2-40?

MSS broadly agree that relevant impact pathways have been identified to be brought forward into the EIA, however we note that due to the extremely broad nature of the project design envelope it is difficult at this stage to scope out many impact pathways.

The applicant states in Table 2-38 that minke whales may be sensitive to the low frequency sounds emitted during operation, but have then scoped out disturbance to marine mammals from operational noise. There is insufficient evidence to exclude potential impacts of operational noise, therefore MSS advise this is addressed in the EIA. Offshore wind farms are sources of low frequency noise and cumulative effects from turbines may be considerable (Tougaard et al., 2020).

MSS note that potential pollutants have not been specified, nor the mechanism and likelihood of any accidental releases. Therefore, at present there is insufficient information to scope this impact pathway out.

MSS agree that the following impact pathways can be scoped out of the marine mammal assessments:

- Associated impacts with decreasing marine water quality including increased turbidity (construction and decommissioning).
- EMF (operations and maintenance phase)

8) Do you agree with the approach for the cumulative effects assessment and for transboundary effects?

The scoping report states that cumulative and transboundary effects will be considered, but aside from considering the timings of construction activities little detail is available on how effects will be assessed. Therefore, we cannot state that we agree with this approach, given the paucity of details.

General marine mammal comments

The inner Pentland Firth is not explicitly considered for additional surveying however, depending on installation method, animals in this region may be affected. The area has high usage for harbour seals (Carter et al. 2020) and the population in this region is in decline. MSS recommend this area should be included in impact assessments for installation periods.

MSS note that distances to protected sites have been estimated from the centre of the development. We recommend these distances are revised and estimated from the site boundary, rather than the centre. MSS note that a Habitats Regulations Appraisal screening report has not accompanied this scoping request.

MSS request clarification on what cetacean Management Units (MU) and corresponding population sizes will be used in the EIAR, in addition to which absolute density estimates are suitable for assessment. MSS agree with NatureScot that the population estimates from the most recent IAMMWG report (2021) should be used.

Marine fish ecology

Study area

MSS are content with the study area for fish and shellfish ecology.

Impact pathways scoped in/out

MSS are content that all of the potential impacts have been identified for fish and shellfish ecology. MSS broadly agree with the impacts scoped in and out of the offshore EIA, however MSS agree with NatureScot that operational noise impacts should be scoped in for consideration for floating wind turbines. MSS also advise that UXO clearance activities should be considered as an underwater noise impact to marine fish species.

Data

In addition to the Coull *et al.* (1998), Ellis *et al.* (2010) and Aires *et al.* (2014) data, MSS recommend reference to the following papers regarding the spawning areas of cod, haddock and whiting (González-Irusta and Wright 2016; González-Irusta and Wright 2016; González-Irusta and Wright 2017). These papers provide updates to fish spawning areas as well as insights into optimum temperature, depth, salinity and seabed type conditions for spawning. Map layers showing information for all three species is now available on the Marine Scotland MAPS National Marine Plan interactive.

A recent study has also been published on 'A verified distribution model for the lesser sandeel *Ammodytes marinus'* by Langton *et al*. (2021). In this study, species distribution models were developed to predict the occurrence and density of sandeels in parts of the North Sea and Celtic Seas regions. It provides information on environmental requirements for sandeel habitat and indicates potential areas where anthropogenic impacts on sandeel populations should be considered. It is important to note that the report identifies some depth biases in the data that was used to train the model, which results in a less accurate prediction of suitable sandeel habitat presence in deeper areas (>70 m) where sandeel are known to occur. This may therefore underestimate probabilities in these deeper areas, which should be highlighted when referring to the data. The spatial layers associated with the report showing the predicted probability of presence of suitable sandeel habitat and predicted sandeel density may be viewed on NMPi: https://marine.gov.scot/node/21413. MSS recommend that the developer considers this new research in the EIA.

MSS highlight the new paper on 'The effects of Anthropogenic Electromagnetic Fields (EMF) on the Early Development of Two Commercially Important Crustaceans, European Lobster, *Homarus gammarus* and Edible Crab, *Cancer pagurus* by Harsanyi et al. 2022. MSS recommends consideration of this new research within the EIA.

MSS also highlight that Marine Scotland have commissioned a project on 'Essential Fish Habitat Maps for Fish and Shellfish Species in Scotland' through the Scottish Marine Energy Research (ScotMER) programme. This report and the associated modelling and maps are due to be published shortly and MSS recommends inclusion on this work when it is published.

Spawning and/or nursery grounds

MSS note that the project overlaps with spawning and nursery grounds for several species, including sandeel, whiting, sprat, cod and herring. These marine species may be sensitive to impacts from offshore wind farm developments through habitat disturbance or destruction and underwater noise emissions. MSS also note that the project overlaps with the North-West Orkney Nature Conservation Marine Protected Area (NC MPA) of which sandeel are a designated feature. The different types of

offshore wind turbine foundation will have different impacts on seabed habitats and their associated species for example, gravity base foundation occupy a larger spatial footprint and would therefore cause more destruction to sandeel and herring habitat.

Approach to assessment

MSS are content with the proposal to use benthic ecology surveys such as habitat maps and particle size analysis to understand the suitability of seabed habitat for sandeel and herring spawning.

North-West Orkney NC MPA

MSS agree with NatureScot in that the EIA Report should make a clear assessment of the specific impacts of the proposed development on its own and in combination with other developments against all the designated features of the North-West Orkney NC MPA, including sandeel.

Mitigation and monitoring

MSS are pleased to see that cod maturity, herring larval and sandeel surveys have been proposed for this development given the development area overlap with fish spawning grounds. MSS recommend following the approach used by other windfarms who have undertaken fish surveys such as Beatrice Offshore Wind Farm in the Moray Firth.

Commercial fisheries

Study area

MSS are content with the study area and identified ICES rectangles for commercial fisheries.

Potential impacts

MSS are content that all of the potential impacts have been identified for commercial fisheries receptors. However, fisheries impacts will to a great extent depend on what wind turbine technology is selected in the final design, as there are major differences in potential impacts between fixed foundation wind turbines and floating wind turbines. If floating wind technology is being considered, the Tension Leg Platform foundation (TLP) type is most preferred amongst the fishing industry due to its vertical mooring chains and smaller spatial footprint. It is thought by fishers that the TLP foundation will have a lower impact on access for fishing and reduce the potential for snagging gear.

Data

MSS note that 2019 landings data by ICES rectangle are used. MSS highlight that 2020 landings data are now available, although MSS would urge careful interpretation of these most recent data due to the impacts of the Covid pandemic on the commercial fishing industry.

As noted in the EIA report, the ScotMap data are out of date and the fishing industry have cautioned against the use of these data without considering other industry data such as AIS data to get a contemporary reflection of current fishing activity. MSS agrees that further consultation with the fishing industry is required to understand the fishing activity by smaller, inshore vessels.

Surveys

MSS recommend that commercial fisheries monitoring is carried out pre- and post-construction of the windfarm and associated cabling to allow a comparison of fishing activity and effort and to evaluate any impacts to fisheries such as displacement.

Cumulative impacts

MSS recommend that other licenced marine activities and nature conservation designations that have fisheries restrictions are included in the Cumulative Effects Assessment.

EIA methodology

MSS also highlight that Marine Scotland have commissioned a 'Best practice guidance for assessing fisheries displacement from licensed marine activities'. The publishing of this guidance has previously been delayed, however it is due to be published shortly. MSS recommends consideration of this guidance when it is published.

Diadromous fish

MSS did not review any material in the Onshore Caithness and Orkney EIA Scoping Chapters 3 and 4.

The broad project envelope makes it difficult to provide detailed response to the Scoping Report. The large extent of the cable search area with multiple landfall options is likely to include specific locations that are more sensitive than others. MSS advise that each landfall location is carefully considered given potential site specific concerns in relation to diadromous fish.

Diadromous fish have been included within section 2.4 Fish and Shellfish Ecology. It is not clear if all aspects within this section include or relate to diadromous fish. MSS advise that it should be made clear which potential impacts relate to diadromous fish and those which don't. Given the biology and migratory behaviour of diadromous fish, MSS advise they should be assessed separately to other fish species within the EIA.

Fish Assemblage

MSS agree that the main diadromous fish species which should be considered have been correctly identified as Atlantic salmon, sea trout and European eel. MSS agree with NatureScot, that sea lamprey should also be considered due to the relative close proximity of the River Spey Special Area of Conservation (SAC).

MSS agree with NatureScot that there is potential for connectivity to other SACs. In addition to those outlined by NatureScot, MSS advise SACs within the Moray firth should also be considered: River Spey, River Oykel, and River Moriston. Also the River Evelix is a SAC for freshwater pearl mussel which are potentially dependent on the salmon population and should be considered in a future Habitats Regulations Appraisal. Returning adult salmon migrations in the area are not well defined, however historical tagging work shows evidence of the use of the Pentland Firth by these populations (Malcolm *et al*, 2010; Cauwelier *et al*, 2015; Downie *et al.* 2018).

No site-specific surveys have been proposed by the developer to inform the baseline characterisation or impact assessment on diadromous fish species. There is a lack of survey data on diadromous fish in the region of the Pentland Firth and Orkney waters. MSS advise site-specific surveys of suitable quality are required to characterise the site and where possible identify origins of populations of diadromous fish within the site boundary. Such surveys would substantially fill gaps in knowledge of diadromous fish in the area and inform the EIA/HRA process.

One example of an impact pathway identified within the ScotMER evidence map is the change in abundance and distributions of predators at windfarm developments. Research within the Baltic sea (Friedland et al, 2017) suggest that shifts in the distribution and intensity of predators in the Baltic has reduced post–smolt survival, primarily as a result of change in cod (*Gadus morhua*) distributions. Aggregations of predators (mainly cod) have resulted in mortality of up to 24.8% for the rivers Surna and Orkla in Norway (Hvidsten and Mokkelgjerd, 1987; Hvidsten and Lund, 1988). Reubans et al (2013) report higher catch per unit effort of Atlantic cod at wind turbines, catches at turbines were 2 to 12 times higher than at wrecks and up to 100 times higher than in surrounding sandy areas. Thus a baseline estimate of the distribution of diadromous fish within the site and their rivers of origin, and how this population might be impacted by aggregations of predatory fish in wind farm sites, would substantially inform the EIA/HRA process.

There should be consideration that there are difficulties in sampling diadromous fish at sea which is why some evidence maybe lacking as opposed to there being evidence of no effect on a receptor. However, there are now new proven methods to achieve this. Surface trawls (Holst & McDonald, 2000) have been used to estimate abundance in pacific Coho salmon at sea (Beamish et al., 2000) and to survey Atlantic salmon in the Gulf of Maine (Sheehan et al, 2011, Renkawitz and Sheehan, 2011). Surface trawls are regularly used to sample salmonids in the marine environment in Norway (Andreassen et al., 2005; Holm et al, 2006). In addition the advancement of telemetry has enabled the tracking of both juveniles and adults further into the marine environment than previously capable (Newton et al, 2021; Barry et al 2022). Thus, sampling methods now exist that are able to sample both adult and juvenile diadromous fish at sea allowing for baseline characterisation. MSS advise there is a major need for improved information on the spatial and temporal distribution of diadromous fish, including particularly salmon and sea trout, in the general vicinity of proposed offshore wind developments (see ScotMER diadromous fish evidence map: Streamlined ScotMER evidence map - gov.scot (www.gov.scot).

MSS advise that MS-LOT should consider how developers might contribute to addressing knowledge gaps regarding the distribution and conservation of diadromous fish at sea at the EIA stage, including the use of site-specific surveys.

Mitigation

MSS welcome the embedded mitigation. MSS advise that the effectiveness of these measures should be assessed prior to implementation. MSS advise that piling ramp up and soft start are unlikely to be effective mitigation for salmon and sea trout. Harding *et al.* (2016) found that salmon did not show immediate avoidance behaviour in the presence of piling noise, despite the sound level being greatly above that which salmon can detect.

Impacts and Scoping

It is not clear which, if any, of the diadromous fish species are included in the scoping of each factor within table 2-24. MSS advise that diadromous fish should be included within each of the scoped in impact pathways within table 2-24. MSS advise that the timing of activities and subsequent impact should be considered carefully throughout the EIA process in relation to migration timing of anadromous fish species.

MSS do not agree that barrier effects to migratory fish from the presence of turbine installation should be scoped out due to there being limited evidence of a barrier effect. Barrier effects are not only physical objects but may also occur from cumulative sound sources. The effect of single point source

sounds on salmonid behaviour is relatively unknown. Recent modelling indicates cumulative noise levels maybe elevated up to a few kilometres from a wind farm under low ambient noise (Tougaard, *et al.* 2020). MSS are also in agreement with NatureScot 'floating structures may act as a resonating chamber.' MSS advise that the barrier effect of sound should be scoped in.

The exclusion of barrier effects also contradicts section 2.4.9.1 that states '*The assessment will focus on noise-sensitive species, including sprat, herring, gadoids (e.g. whiting and cod) and diadromous fish, and will consider the potential for underwater noise to act as a barrier to diadromous fish migration.'* and section 2.4.7, '*therefore, underwater noise will form the focus of the Cumulative Effects Assessment for fish and shellfish ecology.'*

In section 2.4.8 Potential Transboundary Effects and 2.4.7 Potential Cumulative Effects, only underwater noise is identified as a potential impact pathway. MSS advise the that changes in predator distributions and abundance, such as seabirds, marine mammals and fish, may subsequently impact on migrating or foraging diadromous fish and should also be considered. There is evidence for numerous populations of diadromous fish utilising the study area where potential changes in predator distributions could impact on wider populations.

MSS recommend that the applicant considers the resilience of salmon and sea trout populations to loss of fish, in any assessment of impacts for diadromous fish.

Assessment Approach

2.4.9.1 MSS suggest that the Atlantic Salmon Trust (AST), who have been undertaking large scale tagging work of juvenile Atlantic Salmon on the west coast of Scotland and Outer Hebrides, should also be consulted.

2.4.9.1 should also include the North and West District Salmon Fishery Board (DSFB), which has statutory responsibility for salmon fisheries in northern Scotland, adjacent to the development site.

Benthic Ecology

Study areas

MSS agree with the study areas. Maps to show the degree of overlap between known Priority Marine Feature/protected feature records and the developments in the two areas would be useful.

Data

The data sources referenced are relevant. Further data resources include the Marine Recorder database which can be downloaded to show all benthic biotopes and indicates survey effort as well as sample descriptions. NBN Atlas may also be useful for individual bivalve records where presence may be indicative of suitable habitat for beds or aggregations to occur (in the absence of dedicated survey effort). The offshore area is a region of Scotland with relatively low survey effort and data gaps. Therefore, predictive species and habitat models could be reviewed e.g. for *Arctica islandica* (Reiss et al., 2011) horse mussel beds, flame shell beds (Millar et al., 2019) and maerl beds (Simon-Nutbrown et al., 2020) to inform the EIA and future surveys.

For detailed mapping of recent maerl, flame shell and horse mussel bed records around Orkney as well as thresholds for recording 'beds', see Shucksmith et al. (2021). Further survey and sample

details that may be useful include those within Kamphausen (2019), Moore (2014) and Sanderson et. al. (2014).

Mitigation Measures

MSS agree with the proposed management measures and the inclusion of an invasive non-native species (INNS) management plan, but advise extending this to include a detailed INNS monitoring plan.

Impacts

MSS agree that all relevant receptors have been identified in table 2-15 in terms of PMFs. Given the potential overlap with flame shell beds and fan mussels (*Atrina fragilis*), these should be considered 'key issues' alongside horse mussel beds and maerl beds for the Scapa Flow area.

Long-term loss or damage to benthic habitats and species is scoped in in Table 2-18 but not included in the summary table (5-1). MSS agree with table 2-18 that long term intertidal and subtidal habitat loss is likely, for example due to abrasion caused by anchor lines and moorings. Techniques for monitoring such loss should be explored and consider the potential for both positive and negative effects for biodiversity.

MSS agree with scoping out transboundary impacts.

Assessment approach

The assessment approach described in 2.3.9 refers to project-specific data in 2.4.3, which we assume is an error and should refer to 2.3.3 (because 2.4.3 contains fish and shellfish references).

The assessment approach seems reasonable. The list of guidance resources in 2.3.3 includes defining *Sabellaria* reef, which may be relevant if *Sabellaria* aggregations are found. However, we advise that this should be extended to include and explore definitions for other biogenic structures recorded in the proposed development areas, such as horse mussel beds, flame shell beds and maerl beds. Shucksmith et al. (2019) describe thresholds applied for these in Table 1 as well as sample descriptions of PMFs in Scapa Flow. Descriptions and background information for sensitive PMFs can be found at the bottom of this webpage Improving protection given to Priority Marine Features outside the Marine Protected Area network - Scottish Government - Citizen Space (consult.gov.scot).

Finally, given the lack of survey effort for this region of Scotland, as described above, dedicated survey work is welcomed and should provide suitable coverage of the area and take account of survey gaps. Consideration should be given to the fact that there are difficulties in identifying some of the key habitats and species in this region (e.g. flame shell beds and *Arctica islandica*) with traditional sampling techniques (e.g. grab, drop down video and still imagery). Wort et al. (2022) provide a review of DNA methods and sampling regimes for benthic monitoring.

Physical environment / coastal processes

MSS agree with NS comments and have the following responses to the questions listed in the Scoping Report. In particular, we have some recommendations regarding the proposed assessment approach.

Do you agree with the study areas defined for physical and coastal processes?
The study areas should be extended to include the whole of North-West Orkney NC MPA, to account for possible changes to stratification.

Do you agree with the data sources which are suggested for the assessment of physical and coastal processes?
2.1 Physical and Coastal Processes: There are a number of West Orkney Windfarm personal communications, 2021, regarding residual circulation, sediment transport, and non-tidal current speeds in the study area. We recommend that more rigorous references are provided.
2.1.4.1.6 Frontal Zones: The DECC (2016) reference is not listed in the reference list. MSS assume it is the DECC data source listed in the "Hydrodynamics and Waves" section on page 58.

Are there any additional data sources or guidance documents that should be considered?
We advise consideration of the following data sets:

- Scottish Shelf Waters Reanalysis Service: https://tinyurl.com/SSW-Reanalysis;
- Cefas WaveNet data: https://wavenet.cefas.co.uk/

Do you agree with the suggested embedded mitigation measures and is this mitigation appropriate?
Yes

Do you agree that all receptors and impacts have been identified for physical processes?
The North-West Orkney NC MPA appears to be an omission, and should be considered, with respect to potential changes to extent and timing of seasonal stratification.

Do you agree with scoping out transboundary impacts?
Yes

Do you agree with the proposed assessment approach?
The proposed approach to sediment modelling is pragmatic, although sufficient evidence should be provided to justify this simplified approach.

Very few details of the numerical modelling approach have been provided and we recommend that a detailed method statement is provided prior to modelling work being undertaken, including details of sediment modelling. This should include modelling methodology, such as boundary forcing data sources, model resolution, whether the model is 2D or 3D and how wind farm structures will be represented.

An additional impact that should be investigated is the potential for changes to water column structure including timing and extent of seasonal stratification. Whether the windfarm is likely to change the extent and timing of stratification should be scoped into the EIA. A (floating) windfarm could change water column mixing, as structures can generate turbulent wakes, and/or by altering the near sea surface wind speeds (Christiansen et al. 2022, Durrell et al. 2022). The applicant should provide details of the baseline water column conditions, including the extent and timing of stratification. Qualitatively considering how the windfarm could alter these processes may be a

pragmatic/proportional approach as long as sufficient evidence is provided, e.g. good baseline description, using data from 3D hydrodynamics models, and citing research evidence. If there are uncertainties as to how the wind farm may change stratification, then 3D hydrodynamic modelling may be required. Changes to mixing have the potential to impact other receptors, such as productivity as well as higher trophic levels, and this should also be qualitatively considered in the EIA. Impact on NC MPAs where fronts are a designated feature should be considered.
When considering potential cumulative impacts, regional tidal stream developments (e.g. in the Pentland Firth) should also be considered.

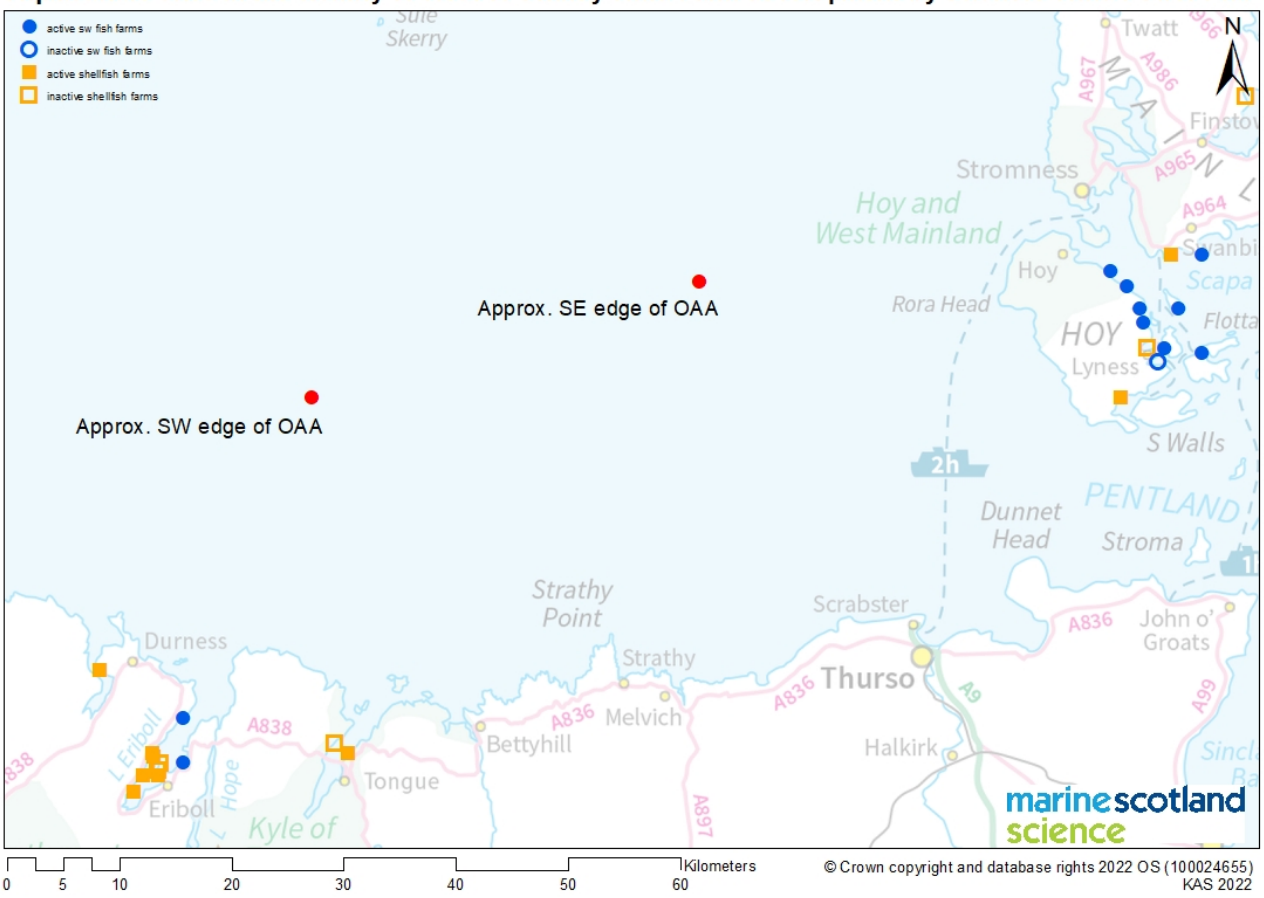
Aquaculture

There are currently no aquaculture sites registered with Marine Scotland Science located in the immediate vicinity of the OAA of the West of Orkney Wind Farm development proposed by Offshore Wind Power Ltd. (see map).

However, there are a number of aquaculture sites in the wider surrounding area. The nearest are situated on the North coast of mainland Scotland ca. 30 km south of the SW boundary of the OAA. This includes an active shellfish site at Kyle of Tongue stocking Pacific oysters and native oysters in seawater trestles (operated by Kyle of Tongue Oysters), and also two active marine finfish cage sites stocking Atlantic salmon in Loch Eriboll (operated by Scottish Sea Farms Ltd). Further into Loch Eriboll there are 5 active shellfish sites: four common mussel longline sites and one Pacific oyster trestle site. The operators of these sites are Loch Eriboll Oysters, Loch Laxford Shellfish and Cape Wrath Mussels.

There are also a number of aquaculture sites on the east coast of Hoy: the nearest site at the north end is ~37 km east of the proposed development. These sites are active marine cage Atlantic salmon sites (operated by Scottish Sea Farms Ltd or Cooke Aquaculture Scotland). Furthermore, an active Pacific and native oyster trestle site is situated 42 km south east of the proposed development on the south coast of Hoy (this site is operated by Orkney Oysters (Hoy) Ltd).

Aquaculture sites in the vicinity of West of Orkney Wind Farm development by Offshore Wind Power Ltd.



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Hopefully these comments are helpful to you. If you wish to discuss any matters further then please contact the REEA Advice inbox at MSS_Advice@gov.scot

Yours sincerely,

Renewable Energy Environmental Advice Group
Marine Scotland Science

MS-LOT requested further clarifications from MSS and a secondary response was provided

From:	Edwards E (Ewan)
To:	Holland G (Gayle)
Cc:	MSS Advice; Malcolm J (Jessica); Renwick J (Jane); England D (Debbie); Ross R (Rebecca)
Subject:	RE: West of Orkney scoping advice - response by 24th June
Date:	28 June 2022 15:02:31

Dear Gayle,

Thank you for your follow-up queries to Marine Scotland Science, following our advice on the West of Orkney Wind Farm.

We have provided responses to your queries below.

1. Diadromous fish

Desk-based studies are extremely limited in determining the impacts of developments on diadromous fish. Unlike other receptors, where impacts can be more clearly evident, it has previously being difficult to monitor diadromous fish. However, technology has been recently developed that changes this. 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 precautionary principle states that the lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation

With no baseline information from the West of Orkney Wind Farm (WOWF) site (sectoral plan option N1) it is not possible to determine a level of impact arising from the development. For other receptors (such as birds and mammals), this reasoning indicates a requirement for baseline characterisation surveys. It is possible that salmon from multiple SACs are present in the WOWF, according to historical evidence (e.g. Godfrey et al. 2015, Depth use and migratory behaviour of homing Atlantic salmon (Salmo salar) in Scottish coastal waters | ICES Journal of Marine Science | Oxford Academic (oup.com)), and yet the number of fish (and from which SACs they originate) is unknown and could not be determined from a desk-based analysis. The potential scale of impact varies with the numbers of fish present: 100,000 salmon transiting the windfarm site could have a very different potential for population-level impact than a few thousand salmon transiting the site. MSS has successfully completed trawling work for smolts from which densities of salmon in offshore areas can be estimated (these data are currently being analysed), and pelagic sampling is undertaken for other species. MSS could provide advice to the developer on suitable sampling designs.

Strategic post-consent monitoring could be beneficial if appropriate conditions regarding time and financial cost were put on this, to deliver timely evidence.

Our advice is that if strategic monitoring is considered more appropriate than site-specific baseline characterisation surveys at this site, then we advise that this should be defined through consent conditions, specifically in relation to time of delivery. We welcome further discussion with MS-LOT about how best to establish strategic diadromous fish research, and can provide input into designing research projects to address important knowledge gaps.

2. Marine mammals

MSS note that whilst in the past operational noise has been scoped out of further assessment, the scale of developments planned as part of the Scotwind leasing round mean that we do now consider that cumulative impacts warrant further assessment, for both floating and fixed-foundation developments. We advise that the low frequency sound produced by operational wind turbines is more likely to be of concern to baleen whales. For this reason, we are content that only minke whale are scoped in for this impact pathway.

Many thanks,
Ewan

Dr Ewan W. J. Edwards (he/him)
Marine Scotland Science
* *I work flexibly - I do not expect a reply outside your normal working hours* *

Maritime & Coastguard Agency

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Scottish Government, Marine Scotland
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29 April 2022

Dear Ms Renwick

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE WEST OF ORKNEY OFFSHORE WINDFARM LOCATED 23 KILOMETRES NORTH OF THE CAITHNESS COAST AND 28KM WEST OF HOY, ORKNEY COAST

The MCA has reviewed the scoping report provided by Offshore Wind Power Ltd on the West of Orkney offshore wind farm, as detailed in your email dated 1st April 2022 and we would comment as follows:

The Environmental Statement 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 significant amount of through traffic to major ports, with a number of important shipping routes in close proximity, and attention needs to be paid to routing, particularly in heavy weather ensuring shipping can continue to make safe passage without large-scale deviations. The likely cumulative and in combination effects on shipping routes should also be considered, the impact on navigable sea room and include an appropriate assessment of the distances between wind farm boundaries and shipping routes as per MGN 654.

A Navigational Risk Assessment will need to be submitted in accordance with MGN 654 and the MCA Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI). 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

I note, in paragraph 2.8.3.1, that vessel traffic surveys will be undertaken to the standard of MGN 654 i.e. 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.

The turbine layout design will require 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.

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.

Under Table 2-51, regulatory mooring expectations is identified as a potential mitigation for floating infrastructure and I can confirm this guidance should be followed and that a Third-Party Verification of mooring arrangements will be required. Also identified in Table 2-51 is the IALA recommendations O-139 Marking of Man-Made Offshore Structures, however this was replaced by G1162 ED1.0 The Marking of Man-Made Offshore Structures.

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). Attention should be paid to 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)) that can cover the entire wind farm sites and their surrounding areas. A SAR Checklist will also need to be completed in consultation with MCA.

MGN 654 Annex 4 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. Failure to report the survey or conduct it to Order 1a might invalidate the Navigational Risk Assessment if it was deemed not fit for purpose.

It is noted that HVDC transmission infrastructure maybe installed therefore consideration must be given to electromagnetic deviation on ships' compasses. The MCA would be willing to accept a three-degree deviation for 95% of the cable route. For the remaining 5% of the cable route no more than five degrees will be attained. The MCA would however expect a deviation survey post the cable being laid; this will confirm conformity with the consent condition. The developer should then provide this data to UKHO via a hydrographic note (H102), as they may want a precautionary notation on the appropriate Admiralty Charts.

Paragraph 2.8.10 asks some scoping questions to which our responses are as follows:

- *Do you agree with the proposed study area (incorporating a 10 NM buffer around the array area)?* Yes
- *Do you agree with the proposed approach to survey data collection?* Yes

- *Do you agree the embedded mitigation is appropriate, or are there other measures that should be included?* The full list of risk controls will be identified during the NRA process of consultation with navigation stakeholders and hazard analysis.
- *Do you agree with the list of scoped impacts?* Yes, in combination with comments above.
- *Are there any additional shipping and navigation organisations that you would recommend be consulted?* The list under paragraph 2.8.9.1 is appropriate.
- *Do you agree with the proposed assessment approach?* Yes

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

Yours sincerely,

Nick Salter
Offshore Renewables Lead
UK Technical Services Navigation

Marine Analytical Unit

marinescotland

The West of Orkney Wind Farm

Marine Analytical Unit Response

The West of Orkney Windfarm Scoping report includes descriptions of a range of potential impacts. This response focuses only on the assessment of social and economic impacts.

Marine Scotland is producing guidance on how to carry out Socio-Economic Impact Assessments for offshore renewable developments. The guidance is still in draft form and so cannot be shared, but the recommendations included in this response align with the broad contents of the guidance document.

We recommend that a full Socio-Economic Impact Assessment be scoped into the Environmental Impact Assessment.

Socio-economic impacts

Overall the scoping report is quite good. We welcome the offshore and onshore components being considered and feel that the economic impacts are covered adequately.

However, the social impacts are considered much more superficially, if at all. A project of this scale has the potential to generate social impacts, especially as it is taking place in a remote, rural area. Examples include:

- Changes in demographics due to people moving in for work
- Changes in employment structure and sector composition affecting the culture of the area
- Pressure on services due to demographic changes

The potential for these changes, and the knock on effects for impacted communities should be explored. See Annex 1 for a list of potential socio-economic impacts.

Annex 2 provides an overview of what we would expect in a socio-economic impact assessment.

Socio-cultural effects

We feel socio-cultural effects should be scoped in for all phases. Socio-cultural effects could be generated in a number of ways e.g. by a change in local industry composition, a change in demographics if, for example, it is mostly young, single men who move in for work.

The report also states that the construction and decommissioning phases are too short to generate impacts. The report states that the construction phase will last at least 4 years. Socio-cultural effects could certainly be generated in 4 years. If there is likely to be an influx of workers for that 4 years period, the impact assessment should consider where they will stay, the impact on services, how they will integrate with the host population and also whether impacts will be generated when they leave, as well as when they arrive.

Socio-cultural effects have also been scoped out of the operation and maintenance phase, despite this being a long-term phase. The reason given is that the project is offshore. We would have thought changes in employment etc. and the socio-cultural effects these generate would continue through the O&M phase.

Socio-cultural effects have not been explored at all in the report, and there has been no data collection, engagement or primary research with communities to determine the potential for these impacts. We, therefore, feel it is presumptuous to scope them out.

Distributional effects

We feel that distributional effects should be scoped in for all phases. There is potential for distributional effects to be generated by this sort of project. For example, those with lower income jobs may be priced out of local housing due to higher demand from higher paid workers moving into the area and raising local house prices. it is also possible that an increase in economic growth leads to a reduction in poverty overall, but unequally.

As above, distributional effects have not been explored at all in the report, and there has been no data collection or engagement with communities to determine the potential for these impacts. We, therefore, feel it is presumptuous to scope them out.

Data and evidence

The data sources presented seem good for a desk-based study. We think that primary data should also be collected, particularly for assessing social impacts. It is important to understand the historical and cultural context of an area to assess social impacts. It is also crucial to ask people in the area about their values and priorities in order to understand which changes could generate the biggest impacts. This has not been done for the scoping report, with the result that there is not sufficient evidence to scope out particular impacts, and is not planned for the EIA. We feel that it will not be possible to assess social impacts adequately without collecting primary data.

Links to other receptor groups

Impacts on the other receptors have the potential to generate socio-economic impacts. For example, impacts on commercial fisheries may have social and cultural effects, impacts on culture and heritage could have an effect on tourism (wreck diving is an important attraction in the area), and impacts on seabirds could affect tourism as well.

At the bottom of page 404 the report states “The assessment will also consider the potential implications of the Project for existing local industries, including tourism.” We welcome this, and would like to ensure that *all* existing local industries are considered, including commercial fisheries.

Consultation and engagement

Although the report states, numerous times, that stakeholder engagement will continue throughout the lifetime of the project, the strategy focuses on the consultation required for

the consenting process. It is, therefore, unclear how and when the other groups mentioned will be engaged with.

Engagement with community councils, as part of community panels, is welcome, but this section also doesn't describe how and when these groups will be included in the process. We recommend a participatory approach to socio-economic impact assessments. This has a number of benefits such as producing a more accurate assessment of impacts, and increasing the likelihood of community buy-in to the project. See Annex 2 for further details.

Scoping Questions

- Do you agree with the study areas defined?
    - The approach, assessing impacts over local, regional and national study areas, seems appropriate.

- Are the identified data sources appropriate for the baseline characterisation of the local study area?
    - See paragraph on data and evidence. The data sources are appropriate for desk-based economic assessment. We would recommend collecting primary data, in order to fully assess the social impacts.
    - Additionally, we would welcome a detailed description of the baseline and the assumptions within it. Is the baseline/counterfactual assumed to be 'as is' position or does it assume some changes that might happen during the appraisal period in the absence of the intervention?. See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/922150/RPC_case_histories_-_counterfactuals_Sep_20.pdf for further details

- Are there any additional data sources or guidance documents that should be considered?
    - John Glasson: best-practice-guidance---final-oct-2020.pdf (vattenfall.com)
    - Frank Vanclay SIA_Guidance_Document_IAIA.pdf

- Do you agree that all receptors and impacts have been identified for socio-economics?
    - See paragraphs above, as well as Annex 1 and 2 for more details on socio-economic impacts that should be considered in an SEIA.

- Do you agree that the impacts suggested can be scoped out of the EIA section?
    - No. We feel that socio-cultural effects and distributional effects should be scoped in for all phases.

- Which major energy or other infrastructure projects should be included as part of the cumulative impact assessment?
    - All major energy and other infrastructure projects should be included as part of the cumulative impact assessment.

- Do you agree with scoping out transboundary impacts?
    - Yes

- Do you agree with the proposed approach assessment?
    - The approach set out seems appropriate for an economic assessment. A working group for socio-economic and tourism is a good idea. Social impacts are not considered adequately (see paragraphs above). We would recommend involving a social scientist to work alongside an economist on the socio-economic impact assessment. For each economic impact and other relevant effects of the project, the social implications need to be considered.

Annex 1

*Table **1.** Types of socio-economic impact (taken from Glasson 2017[1])*

1. **Direct economic:**
   - employment, including employment cohort and safeguarding of existing employment;
   - unemployment and underemployment
   - 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
   - GVA and GNP.
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;
   - 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:**
   - effects on specific groups in society (eg: by virtue of gender, age, religion, language, ethnicity and location); environmental justice

[1] 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

Annex 2

Key components of a socio-economic impact assessment

Participatory approach

Creating participatory processes and a deliberative space to facilitate community discussions about desired futures, the acceptability of likely negative impacts and proposed benefits, and community input into the SEIA process.

- Assess community capacity to engage – capacity building may be necessary
- Appoint Community Liaison Officer(s) for each affected community
- Set up governance structures so that communities feel they can voice opinions and be listened to
- Begin community engagement as soon as possible, brief communities on project with as much detail as possible so that they can prepare
- Ensure that community engagement is done with sensitivity to avoid causing stress or anxiety

Baseline

This is the starting point for the economic assessment and the benchmark against which to measure impacts. It is important to gain a good understanding of the communities and stakeholders likely to be affected by the project (i.e. profiling) including their needs and aspirations and any key social issues that may arise as a result of the project.

- Develop social and economic profile of the area including:
    - history, culture and context
    - Industrial structure i.e. existing businesses in the area
    - Socio-economic conditions i.e. levels of employment, income etc.
    - Related industries i.e. fishing, tourism
    - Local planning policies, where relevant
- Select a range of indicators, e.g.:
    - Employment and unemployment levels
    - Structure of working age population/skills/qualifications
    - GVA
    - Wellbeing
    - Community cohesion
- Engage with community to learn of any other important features/indicators to include in baseline. There may be useful local datasets
- Analysis may draw on a combination of existing datasets and primary data

Prediction or Appraisal

Forecasting the social and economic changes that may result from the project and the impacts these are likely to have on different groups of people. A list of potential socio-economic impacts can be seen in Table 1. Many of these impacts can be considered from a social and economic perspective. In the following sections we describe in more detail how this could be done.

- Identify potential/anticipated socio-economic impacts including:
    - Impacts related to GVA
    - Impacts related to employment, skills and training
    - Impacts on related industries – tourism, fishing, etc.

    - Impacts relating to wellbeing
    - Impacts relating to culture

- Identify suitable method for predicting impacts
- Collect necessary evidence to conduct analysis
- Engage with community to check predictions and assign significance to predicted impacts
- Impact prediction should include
    - Assessment of different phases of the project (development, construction, operation & maintenance, decommissioning) and phases within phases (early construction, peak construction)
    - Consideration of transition between phases
- Impacts may be direct, indirect and induced
- It is important to look at the distribution of impacts at the national, regional and local level, and across different groupse.g. businesses, individuals, income levels, organisation, women, youth, elderly, disadvantaged etc.

Other economic considerations may include:

- Displacement - an assessment of the effect of the intervention on the structure of local factor and final goods markets
- Substitution - where the intervention causes an employed factor to be replaced by a currently unemployed factor
- Deadweight - This is the net impact, after taking into account what would have happened in the absence of the intervention
- Cumulative effects - effects from multiple pressures and/or activities

Mitigation and enhancement

Identifying ways of mitigating potential negative impacts and maximising positive opportunities.

- Engage with community to develop strategy for enhancing benefits and mitigating against impacts
- This may involve Community Benefit Agreement (CBA)
- Care should be taken to ensure that CBA and any associated funds should have accessible application procedures so that allocated funds can be used

Monitoring and management

Developing a monitoring and management plan to track and manage implementation, success of mitigation actions, and any unanticipated social changes, especially negative impacts.

- Develop management plan and monitoring strategy
- Engage with community – especially with regard to both
    - Community may have concerns that they particularly want to be monitored
    - There may be local considerations regarding timing of monitoring and methods used e.g. access to internet for particular groups

- Link management plant to governance structures so that community can continue to engage with the project

Ministry of Defence

Defence Infrastructure Organisation

Teena Oulaghan
Ministry of Defence
Safeguarding Department
St George's House
DIO Headquarters
DMS Whittington
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WS14 9PY

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Your Ref: SCOP-0012

Our Ref: DIO10055093

Jane Renwick
Scottish Government
Marine Scotland
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

By email only

16 June 2022

Dear Jane,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE WEST OF ORKNEY OFFSHORE WINDFARM LOCATED 23 KILOMETRES NORTH OF THE CAITHNESS COAST AND 28KM WEST OF HOY, ORKNEY COAST.

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

Thank you for consulting the Ministry of Defence (MOD) on the above scoping opinion request in respect of the West Orkney Offshore Wind Farm development. The consultation was received by this office on 21 April 2022.

I write to confirm the safeguarding position of the MOD regarding information that should form part of any Environmental Statement submitted in support of an application.

The applicant has prepared a scoping report for the proposed development. The scoping report recognises the principal defence issues relevant to MODs consideration of the proposed development.

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 and radar systems that may be affected by the proposed wind farm and the MOD is identified as a relevant receptor in Chapter 2.10 Military and Aviation of the scoping report.

The report identifies that the proposed turbines will not affect or be detectable to any Primary Surveillance Radars (PSR), whether military or civilian, in the wider region and have therefore been scoped out. The report also notes that the development would have no impact on the operation and capability of any Air Defence Radars (ADR), this has also been scoped out.

Impact on military activity has been recognised in 2.12.4.1.3 of the scoping report. The designated site areas, as shown on figure 2-49, overlaps four military Practice and Exercise Areas (PEXA). The scoping report identifies that the development has the potential to impact on local airspace restriction specifically military danger area D801 Cape Wrath. Cape Wrath Training Area provides opportunities for a wide range of field fire and dry training

exercises and is the only range in Europe where land, air, and sea training activities can be conducted simultaneously and heavy ordnance, including live 1000lb bombs, can be used. Wind turbines have the potential to present an obstacle and danger to military aircraft and vessels operating/navigating within this area which might be engaged in live firing activity or high energy maneuvers. Further assessment will be essential to determine the potential for this development to limit or otherwise restrict defence activity at Cape Wrath. Any scheme that would impact on the function and capability at Cape Wrath will result in an objection from MOD.

The MOD also has highly surveyed navigational routes in the vicinity which we would need to take into consideration when reviewing any development proposal.

The potential presence of unexploded ordnance (UXO) has been identified as a relevant consideration in section 2.9 Marine Archaeology and Cultural Heritage. The potential presence of UXO and disposal sites is also a relevant consideration to the installation of cables and other intrusive works that may be undertaken in the maritime environment. I acknowledge that the scoping report in this section has identified the presence and potential for locating wrecks of vessels and /or aircraft.

Impact on military low flying has been scoped in and the applicant states in the scoping report that they are committed to lighting and charting the turbines. In the interests of air safety, the MOD would request that the development be fitted with MOD accredited aviation safety lighting in accordance with the Civil Aviation Authority, Air Navigation Order 2016.

MOD acknowledge that this consultation request relates to the proposed Section 36 consent and Marine Licence applications and not the onshore elements of the works. MOD request that we are consulted once more detail is available relating to the cable route and onshore landfall location.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely

[redacted]

Teena Oulaghan
Safeguarding Manager

NATS Safeguarding

From:	NATS Safeguarding
To:	MS Marine Renewables
Subject:	RE: [SG33004] SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022. [SG33004]
Date:	08 April 2022 08:57:06
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png

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Our Ref: SG33004

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 Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
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NatureScot

NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

Marine Scotland
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

26 May 2022

Our ref: CEA166606

By email only: ms.marinerenewables@gov.scot

Dear Jane,

WEST OF ORKNEY OFFSHORE WIND FARM - OFFSHORE WIND POWER LTD

NatureScot SCOPING ADVICE

Thank you for consulting NatureScot on the Environmental Impact Assessment (EIA) Scoping Report submitted by Offshore Wind Power Ltd and for granting us an extension to fully consider the issues raised within the Report.

Our advice on the natural heritage interests to be addressed within the Environmental Impact Assessment Report (EIA Report) is outlined below. Please note that the advice contained within this letter is in relation to the offshore infrastructure (seaward of MHWS) only - as we have been consulted, and subsequently responded, on the onshore elements separately.

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.

NatureScot works in support of the Scottish Government's vision for an energy sector that delivers secure, affordable and clean energy for Scotland[1]. We provide advice in the spirit of Scotland's National Marine Plan[2] which balances the promotion of the sustainable development of offshore wind, whilst protecting our biodiversity and taking account of seascapes, landscapes and visual impacts. We also recognise that this proposal is a lease awarded through the ScotWind process and identified in the Sectoral Marine Plan for Offshore Wind.

[1] Scottish Government Energy Strategy 2017: https://www.gov.scot/Publications/2017/12/5661/3
[2] Scotland's National Marine Plan: https://www.gov.scot/Publications/2015/03/6517

Proposal

The proposal includes a project design envelope approach, comprising:

- Up to 125 wind turbines with the option of three different fixed-bottom foundation structures (monopoles, jacket foundations or gravity-based structures), and / or three different floating structures (semi-submersibles, barges or tension leg platforms) or a combination of all these options proposed.
- A maximum blade tip height of 370m above LAT and a minimum blade tip of 22m above LAT.
- An installed capacity of 2GW with a proposed 50 year consent period.
- Up to five Offshore Substation Platforms supported by piled jacket foundations, locations yet to be determined.
- Up to 750km of inter-array plus potentially 150km interconnector cables with a number of potential options for installation being considered.
- Three export cable corridors, as per Figure 1-1 with up to 10 export cables: up to five to a landfall at Caithness and up to five to a landfall at Flotta via onshore sections across Hoy and potentially Fara.
- 16 landfall sites under consideration, with three techniques proposed for installation including horizontal directional drilling, open-cut trench and rock-pinning.

Content of the Scoping Report

We have some concerns regarding the level of detail and broad project design envelope presented in the Scoping Report.

It states within the Marine Scotland Consenting and Licensing Guidance[3] that '*the greater the detail within the Scoping Report, the more informative the scoping opinion. Important information includes project design parameters and details of the construction, operational and decommissioning phases as well as the proposed environmental and assessment methodology (including data, assessment approach and determination of significance). A lack of detail in these respects can result in an increased degree of uncertainty about the potential environmental effects that could arise from a development'.*

We note that baseline characterisation surveys are ongoing, but no preliminary results have been provided in the Scoping Report to better inform key species, impact pathways and resulting impact assessments.

The narrative provided in the Scoping Report on impact assessment methods and tools is predominantly high level and will require ongoing engagement throughout the post-scoping opinion/pre-application period to discuss and agree methods.

This lack of detail means that our advice is not as detailed, project-specific and thus as informative as it could have been. Furthermore, the broad project design envelope and high level Scoping Report means that the realistic worst case scenario required for assessment and determination is not clear. This may result in an increased degree of uncertainty about the potential environmental effects that could arise as a result of this development.

[3] https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2020/02/marine-licensing-applications-and-guidance/documents/guidance/guidance-manual-for-offshore-wind-wave-and-tidal-energy-application/guidance-manual-for-offshore-wind-wave-and-tidal-energyapplication/govscot%3Adocument/Guidance%2BManual%2Bfor%2BOffshore%2BWind%252C%2BWave%2Band%2BTidal%2BEnergy%2BApplication.pdf

It is noted in the Scoping Report that the design will evolve from Scoping to post-consent, but it isn't clear from the information provided that this process will be sufficiently advanced by the time the EIA and HRA assessments are being undertaken to inform robust assessments and thus consenting decisions.

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. 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 key trophic levels particularly in relation to the availability of prey species. This will enable a better understanding of the consequences (positive or negative) of any potential changes in prey distribution and abundance from the development of the wind farm on seabird and marine mammal (and other top predator) interests and what influence this may have on population level impacts.

The impact of climate change effects should be considered, both in future proofing 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.

Habitats Regulations Appraisal (HRA)

We strongly advise a HRA screening report, to identify sites for which there may be a likely significant effect (LSE), is produced and submitted for comment at the earliest opportunity, and in advance of the EIA Report in order to fully inform our HRA advice for this project.

Mitigation

We have some concerns about the approach taken with respect to mitigation within the Scoping Report. Much of the embedded mitigation detailed throughout includes the development and adherence to post consent plans/programmes, or adherence to international regulations which don't strictly constitute mitigation. The EIA Report must clearly articulate those mitigation measures which are informed by the EIA (or HRA) and are necessary to avoid or reduce predicted significant adverse environmental effects of the proposed development.

Intertidal

The intertidal area, between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS), is covered under both relevant onshore and offshore legislation. However, the intertidal area only appears to be mentioned in relation to benthic ecology and the marine historic environment. Consideration is required for other receptors, including seals and birds.

Technical working groups

It is noted in *Section 1.5.3* that it is intended to establish technical working groups to discuss survey methods, interim results, assessment methods and EIA outputs. We would recommend that the 'marine ecology' working group is separated out further so that marine ornithology becomes a separate technical working group. We are also not clear on the resource commitments this will entail and may only be able to attend some of these meetings.

Positive Effects for Biodiversity / Biodiversity Gain

We recommend the consideration of Positive Effects for Biodiversity / Biodiversity Gain at an early stage and can provide further information if required.

Natural heritage interests to be considered
We refer you to our advice as detailed below within receptor-specific technical appendices for key natural heritage interest to be considered in the EIA Report and HRA:

- Advice on ornithological interests is provided in **Appendix A**.
- Advice on marine mammal interests is provided in **Appendix B**.
- Advice on seascape landscape and visual impact assessment (SLVIA) is provided in **Appendix C**.
- Advice on benthic interests is provided in **Appendix D**.
- Advice on fish and shellfish interests is provided in **Appendix E**.
- Advice on physical processes is provided in **Appendix F**.

We will continue to engage with Offshore Wind Power Ltd and have sought to identify within each Appendix where there is the need for further discussion to refine and agree assessment methods.

Further information and advice
NatureScot can provide further advice on natural heritage interests, at appropriate stages, as work is undertaken by the applicant in support of their final submission. Please contact myself, Kim McEwen in the first instance for any further advice.

Yours sincerely,

Kim McEwen
Marine Sustainability Adviser, Sustainable Coasts and Seas

kim.mcewen@nature.scot
[redacted]

NatureScot SCOPING ADVICE for WEST OF ORKNEY OFFSHORE WIND FARM

APPENDIX A - ORNITHOLOGICAL INTERESTS

Offshore ornithological interests are considered in *Section 2.5* of the Scoping Report and we have responded to the questions raised within our advice below.

Study areas

The study area is defined in *Section 2.5.2* as comprising a number of elements including; the project footprint plus a suitable buffer, the Zone of Influence of the potential impacts from the project and the region containing reference bird populations. It is noted in *Section 2.5.3.1.1* that Digital Aerial Surveys (DAS) of *'the Project plus a 4km buffer commenced in July 2020',* it would be useful to have clarification on what comprises the Project footprint. Does this include the Export Cable Corridors (ECC) as well as the Option Agreement Area (OAA)? It would have been beneficial to see this illustrated in a map within the Scoping Report.

As noted above there is no mention of ornithological interests of the intertidal area within the Scoping Report. Given the Marine Licence is relevant up to MHWS, information on potential impacts to ornithological interests in the intertidal area will need to be detailed in the EIA Report. Depending on the final landfall locations selected, survey work may be required to inform impact assessments.

Baseline characterisation

The data sources provided in *Table 2-26, Section 2.5.3* are relevant to inform the evidence base around distributions of marine birds at sea but some are limited in either species or areas covered. Therefore, we recommend including two additional relevant sources that would provide a broad scale indication of potential ornithological interest across and within the offshore marine area; Waggitt et al. (2020)[4] and the Bradbury et al. (2019)[5] report.

It would have been helpful to our assessment of the relevance of the information sources, as summarised in *Section 2.5.4.1.1,* if the boundaries of the OAA and ECCs had been superimposed onto relevant figures (e.g. 2-16, 2-18) and if in *Section 2.5.4.1.1.1,* maps had been included showing locations both of the Project boundaries and of the areas covered by the aerial surveys conducted for Dounreay Tri and those commissioned by HIE.

In addition, we note as mentioned above that DAS of the Project plus buffer commenced in July 2020. We would therefore have anticipated seeing at least preliminary, if not fully analysed, data from the initial 12 months of these surveys (i.e. up to and including June 2021) being presented in this Scoping Report to support baseline characterisation, with published sources being used to provide wider context for the area surveyed; and to indicate potential ornithological interest across the remainder of the offshore marine area, including the offshore ECCs.

As above, the DAS commenced in July 2020, which is in the middle of the breeding season and not in line with our guidance that baseline surveys should commence at the start of either breeding or

[4] Waggitt et al. (2020) Distribution maps of cetacean and seabird populations in the North-East Atlantic. *J Appl Ecol.* 2020; 57: 253-269. https://doi.org/10.1111/1365-2664.13525)

[5] Bradbury et al. (2019) report commissioned by Defra MB0126 Risk assessment of seabird bycatch in UK waters - updated 21 Oct 2019. Associated GIS layers that equate to the summer and winter distribution maps for each bird species can be viewed at https://data.gov.uk/dataset/249f8926-855f-436a-93cd-13a390943416/arcgis-layers-accompanying-report-risk-assessment-of-seabird-bycatch-in-uk-waters-mb0126

non-breeding season. However, provided there is a full 24 months of survey, the duration and frequency should be acceptable.

No details have been provided in the Scoping Report of survey design or methods - we will require evidence that the methods deployed are robust, including with respect to detection and identification of storm petrels.

Just to note that once the ECC routes are refined, and depending on locations, duration and timing of cable installations and mitigation measures, there may be a need for additional targeted surveys. Within Scapa Flow, ECC focus would be on inshore wintering waterfowl and/or breeding red-throated diver. The maps in the Scapa Flow Special Protection Area (SPA) site selection document[6] represent models of predicted usage; surveys may be required to assess actual potential for disturbance and/or impacts on prey-supporting habitats.

Key seabird species are identified within *Section 2.5.4.1.1* of the Scoping Report and on the basis of the OAA location and information presented we would agree with inclusion, as a minimum, of kittiwake, guillemot, razorbill, puffin and gannet. We note that great skua is also identified as a key species (on the basis of the 2015 Dounreay Tri surveys) but is excluded from the key species list in *Table 2-32, Section 2.5.4.3*. In light of current identified potential additional pressures on great skua populations associated with avian flu we consider that it should also be identified as a key species. Furthermore, depending on baseline survey findings, we anticipate that some of the additional species currently identified as of potential interest, in particular fulmar and European storm petrel, may also require to be considered as key species' in future assessments. Further discussion and agreement with NatureScot and Marine Scotland is required once the DAS results have been analysed.

Our understanding is that most of the data captured for Seabirds Count is now in the Seabird Monitoring Programme (SMP)[7] database, with the exception of some petrel counts. Pending full publication of the census results (anticipated second half of 2023) Daisy Burnell (JNCC) can advise on any gaps in either coverage, method/quality, or data input that might require consideration of bespoke surveys. We would request further discussions on requirements for additional bespoke surveys to support this EIA, but offer the following preliminary comments:

Great skua

There was significant mortality at colonies in Shetland and elsewhere in late summer 2021 arising from the highly pathogenic H5N1[8] and sick and dead great skuas (as well as gannets) have been found in spring 2022 in Shetland. Samples have recently been sent for analysis, following confirmation of H5N1 in eider found dead in April 2022. The potential impacts of this highly pathogenic flu on great skua populations are of considerable concern; the global population at Seabird 2000 was just 16,000 pairs of which 60% were in Scotland, the vast majority in the Northern Isles. The ongoing avian flu outbreak in wild birds may impact great skua numbers and render Seabirds Count data unreliable. We advise the need to consult with NatureScot, RSPB and other potential data holders, and potentially to assist with further surveys of colonies with connectivity to the proposal.

[6] https://www.nature.scot/sites/default/files/2017-12/MarineProtectedAreaProposed-SiteselectiondocumentScapaFlow.pdf
[7] https://app.bto.org/seabirds/public/index.jsp
[8] Walton, P. (2022) Avian influenza in winter 2021/22 – unprecedented impacts on wild birds in the UK. British Wildlife 33(5): 385

Puffins
The last survey of the SPA population on Sule Skerry was in 2018, with the estimate recorded on the SMP being a maximum of 47,742 Apparently Occupied Burrows. The timing of this survey, in July, is sub-optimal for this species and details for the methods used are unknown. The survey was undertaken by the Sule Skerry Ringing Group (led by Jez Blackburn) and was part-funded by The Seabird Group. We advise a copy of the survey report is obtained to consider whether a further bespoke survey of puffins might be advisable.

Gannets
At Sule Skerry and Sule Stack SPA, there has been relatively recent (since 2003) colonisation of Sule Skerry with very rapid growth in population, estimated at over 4,500 pairs in 2018 and now roughly equalling numbers at Sule Stack[9]. As for puffin, which could potentially be displaced by this rapidly expanding gannet colony, there may be a requirement for update bespoke survey of this colony to inform assessments. Please also note the possibility of avian flu spread to gannet.

Just to highlight that goldeneye are no longer a feature of the Scapa Flow SPA as detailed in *Section 2.5.4.2* of the Scoping Report and to clarify that red-throated diver are a breeding season feature (all others are non-breeding).

Potential impacts
The inclusion of the OAA and offshore ECCs into a single 'offshore assessment area' means that there is lack of clarity in regards to which pathways have been identified as most relevant in the different project areas/phases. Despite this, in general, the key impact pathways of collision risk, displacement, disturbance and barrier effects that are of relevance to marine birds have been captured in *Table 2-24, Section 2.5.6*. However, we advise that consideration of *disturbance* should not be confined to construction/decommissioning but also considered in the operational and maintenance phase. Depending on locations of ports/harbours used as a base for vessels accessing the wind farm and/or for maintenance of floating wind turbines and levels of associated vessel activity there is the potential for significant disturbance, including of SPA waterfowl species. Therefore, this pathway should be scoped in for assessment.

We are concerned, with respect to project definition, that wet storage aspects have not been adequately captured within the Scoping Report. There is brief reference in *Table 1-12 (Section 1.3.5)* to a possible need for wet storage of assembled floating turbines in the construction phase, but what this would entail is not defined and no potential locations have been identified. Wet storage might also presumably be required for floating turbine maintenance operations, although this is not mentioned within the Scoping Report. The only reference made to potential impacts of wet storage is with respect to displacement of fisheries in *Table 2-45 (Section 2.7.6)*; consideration is required for other receptors, including birds. We would welcome further discussion on this to fully understand the potential impacts and to be able to advise on assessment requirements.

Lighting (turbine and construction/maintenance vessels)
Given the location, we consider that there may be particular risks associated with this development for species such as storm petrels and shearwaters that may be attracted to and/or disorientated by artificial light sources. As well as turbine lighting, these include lighting on servicing or construction vessels, noting in particular that construction will be a 24/7 operation. Such effects could impact assessment of collision and/or displacement and as such the proposed qualitative approach (*detailed in paragraph 5, Section 2.5.9.1.3*) to assess lighting impacts may be

[9] Harris, M.P., Blackburn, J., Budworth, D. &and Blackburn, A. c. (2019). Sule Skerry – an overspill gannetry from Sule Stack. Seabird (32): 96-105

insufficient. We recommend further consultation with NatureScot and Marine Scotland with respect to this aspect of the assessment considering findings from current Marine Scotland commissioned *review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland,* which is due for completion soon, as well as from baseline ornithological surveys of the OAA. We also note that the embedded mitigation identified around lighting (*Tables 2-33, 2-49 and 2-64*) relates solely to compliance with requirements around navigational and aircraft safety; there are no proposals for embedded mitigation to reduce risk to birds.

Indirect impact pathways - seabird prey
As described in *Section 2.5.4.1*, the OAA is located across two shallow sandy banks (Stormy Bank and Whitten Head Bank) which are likely to be important to fish, such as sandeels that are in turn important prey resources for many species of breeding seabirds. Given this, we feel that the proposed approach, as detailed in *Table 2-34* (*Section 2.5.6*) of assuming that indirect impacts to marine birds associated with any impacts on these prey resources and/or their supporting habitats will be captured in wider assessment of displacement is insufficient. As a minimum, clear linkages should be made in the EIA Report to assessments relating to benthic habitats and fish ecology, but more focussed assessment of these indirect pathways may also be required given their potential significance at this location. Similarly, it should be noted with respect to the Scapa Flow ECC that Conservation Objectives for the Scapa Flow SPA include *'The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained'*.

Indirect impact pathways - ghost fishing
There could be enhanced entanglement risk to diving birds associated with lost/discarded fishing gear arising from potential capture of such gear by cables/moorings in the water column (Benjamins et al. 2014)[10]. Further consideration of this is required.

Noise
We note that underwater noise has not been scoped in as a potential impact pathway. However, we acknowledge there is limited evidence available to indicate that significant disturbance from underwater noise is likely. Mitigation measures necessary to reduce impacts to marine mammal species will help reduce any potential impacts to diving seabird species in the absence of such evidence.

Impact assessment
We are broadly content with the assessment methods and tools proposed, as summarised in *Table 2-34 (Section 2.5.6)*. However, we advise the need for further discussion and agreement with NatureScot and Marine Scotland around details as the project envelope is refined, as baseline information emerges, and as further progress is made on development of relevant tools (in particular the Cumulative Effects Framework (CEF)). Particular aspects that will require further discussion include:

Baseline data analysis
The key principles set out in MacKenzie et al. 2013[11] for modelling seabird and cetacean data should apply and we support use of MRSea (where sufficient data points are available). Details of

[10] Benjamins, S., Harnois, V., Smith, H.C.M., Johanning, L., Greenhill, L., Carter, C. and Wilson, B. (2014) Understanding the potential for marine megafauna entanglement risk from renewable marine energy developments. Scottish Natural Heritage Commissioned Report No. 791.
[11] Mackenzie, M.L, Scott-Hayward, L.A.S., Oedekoven, C.S., Skov, H., Humphreys, E., and Rexstad E. (2013). Statistical Modelling of Seabird and Cetacean data: Guidance Document. University of St. Andrews contract for Marine Scotland; SB9 (CR/2012/05).

any proposals to use alternative or additional approaches should be discussed and agreed in advance.

Displacement

We currently advise use of SNCB (2017) matrix methods[12] for auks in breeding and non-breeding seasons and the seabORD tool (Searle et al. 2018)[13] for species with tracking data in the breeding season. However, as identified in the Scoping Report, further input options for SeabORD may become available through the CEF project within the timescales relevant to this assessment.

For displacement assessments we advocate adoption of a range of mortality figures, including consideration of potential seasonal differences. We advise the following values for auks (guillemots, razorbills and puffins), gannet and kittiwake as per Table 1 below:

Table 1	Displacement rate	Mortality rate (breeding season)	Mortality rate (non-breeding season)
Auks – guillemot, razorbill and puffin	60%	3% and 5%	1% and 3%
Gannet	70%	1% and 3%	1% and 3%
Kittiwake	30%	1% and 3%	1% and 3%

We have not previously required quantitative displacement and mortality assessment for fulmar and Arctic tern. Should this be required, given the location of the proposed development, we would wish to see the rationale for the proposed displacement and mortality rates before agreeing values to be used, noting in particular that the displacement rate suggested here may be insufficiently precautionary.

Similarly in relation to ECC works in Scapa Flow, there could be displacement risk to wintering waterfowl and/or breeding red-throated diver features of the Scapa Flow SPA and again we would look to agree appropriate displacement and mortality rates and agree in advance of any associated assessment.

In relation to what buffer should be used in gannet displacement we would recommend further discussion on this, noting that our presumption is that the baseline DAS, which commenced in July 2020 extend only to 4km beyond the OAA. However, the wording in *Section 2.5.3.1.1* refers to the wider 'Project' which would also include the ECCs, as above clarification on the aerial survey area is required.

Collision risk

We expect the basic and extended Band (2012)[14] models to be used, primarily with option 2 and 3 for the worst case and most likely scenarios using Johnston et al. (2014)[15] corrigendum flight height data. The scenarios should be agreed in advance with NatureScot and Marine Scotland.

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[12] Joint SNCB Interim Displacement Advice Note (2017) - http://data.jncc.gov.uk/data/9aecb87c-80c5-4cfb-9102-39f0228dcc9a/Joint-SNCB-Interim-Displacement-AdviceNote-2017-web.pdf

[13] K R Searle, D C Mobbs, A Butler, R W Furness, M N Trinder and F Daunt. (2018) Finding out the Fate of Displaced Birds. Scottish Marine and Freshwater Science Vol 9 No 8, 149pp.

[14] Band collision risk model, guidance and model spreadsheets - https://www.bto.org/our-science/wetland-and-marine/soss/projects

[15] Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. & Burton, N.H.K. (2014) Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. Journal of Applied Ecology, 51, 31– 41. With corrigendum Journal of Applied Ecology 51. Pp 1126-1130.

For stochastic Collision Risk Modelling (sCRM) appropriate inputs (maximum or mean) for monthly aerial densities and any associated variability estimates will require further discussion and agreement. Additional external factors including 2021 auk wrecks and the ongoing avian flu situation may influence advice on this aspect.

We would not support application of the avoidance rates or flight speeds in Bowgen & Cook (2018) in CRM for kittiwakes and large gulls. Our current advice is use of SNCB (2014) guidance[16] with SD of ±2 and adoption of 98% as default for species with no agreed avoidance rate, or terrestrial avoidance rates if available. Further review of avoidance rates, specifically for application in the sCRM is ongoing and we will advise of any revised SNCB position once this process is complete. In the interim, any proposed use of alternative rates to those in the SNCB (2014) guidance must be supported by robust evidence and rationale, and would require prior discussion and agreement with NatureScot and Marine Scotland.

Similarly, we would not support use of the flight speeds in Bowgen & Cook (2018) for kittiwakes and large gulls. We recommend use of those published in Pennycuick 1997 and Alerstam et al. 2007. Any proposed use of alternative values should be evidence-based and discussed and agreed in advance with NatureScot and Marine Scotland.

Monitoring results

Several questions have been posed at the end of the ornithology section with regards to monitoring results from offshore wind farms in Scottish Waters. We would anticipate consultants maintaining awareness of emerging information from relevant studies and discussing any associated proposed amendments in assessment approach with NatureScot and Marine Scotland at the earliest opportunity.

In instances where proposed approaches are at variance with current guidance and/or specific scoping advice, we would anticipate that the evidence presented should be derived from relevant studies at multiple comparable developments and have been subject to peer review and/or formal ratification. With reference to the specific study cited (Vallegjo et al. 2017), we note that this was in relation to the Robin Rigg wind farm in the Solway Firth, which is very different in both scale and location to the proposed West of Orkney development. In addition, as acknowledged by the authors, there were some limitations to the study and approaches to marine ornithology survey and analyses have evolved substantially in the interim; as such we would not consider this study in isolation as applying more generally to potential displacement of common guillemots by offshore wind farms.

Regarding gannet macro avoidance rates, whilst a number of studies have suggested high displacement rates for gannets, there is also evidence of considerable variation among individual birds with consequent seasonal, age or sex specific and locational variation (Lane et al. 2020[17] and Peschoko et al. 2021[18]). In addition, while displacement rates may be relatively high, modelling suggests that associated energetic costs and impacts on survival or productivity may be insignificant[19]. Consequently we do not consider that current evidence supports displacement, rather than collision, as being the primary impact source for this species. However, given the

[16] SNCB Position Note on avoidance rates for use in collision risk modelling (2014) https://www.nature.scot/sncb-position-noteavoidance-rates-use-collision-risk-modelling

[17] Lane, J. V. et al. (2020) 'Vulnerability of northern gannets to offshore wind farms; seasonal and sex-specific collision risk and demographic consequences', Marine Environmental Research, 162, p. 105196. doi: 10.1016/J.MARENVRES.2020.105196

[18] Peschko, V. et al. (2021) 'Northern gannets (Morus bassanus) are strongly affected by operating offshore wind farms during the breeding season', Journal of Environmental Management, 279. doi: 10.1016/j.jenvman.2020.111509

[19] http://www.gov.scot/Topics/marine/marineenergy/Research/SB7

evidence from post consent monitoring indicating gannets may displace over larger distances and increased number of wind farms being proposed, and therefore larger cumulative effect, we agree that displacement impacts should be included within impact assessments for gannet. We advise collision and displacement be considered as additive, with no adjustment for densities, as we are currently unable to disentangle macro avoidance from other aspects of the species avoidance rate.

Population viability analysis (PVA)
The impacts of collision and displacement will need to be considered in the context of relevant SPA breeding colonies particularly where the assessed effects exceed a change to the adult annual survival rate of 0.02%. Where apportioned impacts are large and/or the SPA populations are small, it is likely that population models will be required to establish whether or not there could be long-term impacts on population viability.

We recommended the NE PVA tool is used[20]. We request that the modelling of impacts is undertaken over two time periods; 25 years and 50 years due to increased uncertainty in interpreting outputs from model predictions further than 25 years ahead which necessitates a more cautious approach to their interpretation. No recovery period should be applied to either model run. Impacts should be applied to all ages in agreement with the age apportioning approach, and sabbatical rates of adult birds should be taken into account.

In relation to the question posed in the Scoping Report on counterfactual metrics; whilst these may be particularly valuable in the circumstances described, they are also generally robust. Therefore, we advise that as proposed, counterfactual ratios of both final population size and population growth rate should be presented. No recovery period should be applied to either model run. Impacts should be applied to all ages in agreement with the age apportioning approach, and sabbatical rates of adult birds should be taken into account.

As a general approach, we would support comparison of empirical and predicted growth rates over appropriate time frames (typically several decades) to be used in model validation. However, details of approach in specific case will be dependent on availability of relevant empirical data. Further technical discussions on this aspect may be required once requirements for PVA models for individual species and populations become clear.

Model tuning is an accepted aspect of modelling. However, this must be biologically meaningful and justified (i.e. parameters should not be adjusted simply to make the model 'fit'). Note that we request that the modelling of impacts is undertaken over two time periods, namely 25 and 50 years; this recognises the increased uncertainty in interpreting outputs from model predictions over longer time intervals.

Cumulative impacts
We are content with the approach outlined in *Section 2.5.7,* but to note that particularly for Scapa Flow there may be the potential for cumulative effects from other types of development, aquaculture and port/harbour construction in particular, and these should be included in any cumulative assessment.

[20] Searle, K., Mobbs, D., Daunt, F. & Butler, A. 2019. A Population Viability Analysis Modelling Tool for Seabird Species. Natural England Commissioned Reports, Number 274. http://publications.naturalengland.org.uk/publication/4926995073073152 also see https://github.com/naturalengland/Seabird_PVA_Tool

Transboundary impacts

Further discussion will be required regarding transboundary impacts on receipt of both the HRA screening report and the bird baseline report. It is likely that impacts will occur to seabird populations that breed outside Scotland as well as to wintering water birds that originate outside of the UK.

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APPENDIX B - MARINE MAMMALS

Marine mammal interests are considered in *Section 2.6* of the Scoping Report and we have responded to the scoping questions raised within our advice below.

The information provided in the Scoping Report on impacts and assessment methods including underwater noise impacts is high level, noting that project specific noise propagation models will be developed during the assessment process. Therefore, we are unable at this stage to agree whether the methods described are sufficient to inform a robust impact assessment but have sought to highlight those areas where further discussion and agreement with NatureScot and Marine Scotland is required prior to the assessment being undertaken.

Study area
As detailed in *Section 2.6.2*, the study area encompasses the OAA and ECC search area, with site-specific Digital Aerial Surveys (DAS) being undertaken over the OAA plus a 4km buffer to collect baseline characterisation data on marine mammals.

We would also recommend that static passive acoustic monitoring (PAM) is carried out. A combination of PAM with visual survey data could be used to better estimate density or abundance of cetaceans.

We would expect to see the wider Management Units (MU) specific to each species being used for the impact assessment and recommend use of the most recent IAMMWG (2021) MU population estimates[21].

In the absence of the HRA screening report, we advise that buffers of 50km and 20km respectively should be used to screen in SACs with seal qualifying features.

There are a number of designated seal-haul out sites within or immediately adjacent to the potential landfall sites identified in the Scoping Report. Seal haul-outs are designated under Section 117 of the Marine (Scotland) Act 2010, whereby the intentional or reckless harassment of seals at designated haul-outs may be an offence. The potential impacts should be assessed in reference to the Marine Scotland Guidance[22].

Baseline characterisation
We are content that *Table 2-37, Section 2.6.3* captures relevant baseline datasets, but we recommend also including the Scottish Marine Wildlife Watching Code[23].

Cetacean species proposed to be included in the baseline characterisation are: harbour porpoise, white-beaked dolphin, Risso's dolphin and minke whale. These were identified in the Regional Baselines report as being either present year-round or seasonally. Other species, identified as rare or as sighted within the region but not within the Draft Plan Option (DPO) area are not included. However, there is very little existing data from this area and in the absence of any results from the

[21] IAMMWG (2021) Updated abundance estimates for cetacean Management Units in UK waters. JNCC Report No. 680, JNCC Peterborough, ISSN 0963-8091
[22] https://consult.gov.scot/marine-environment/possible-designation-of-a-seal-haul-out-site/user_uploads/guidance-on-the-offence-of-harassment-at-seal-haul-out-sites.pdf-1
[23] https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/scottish-marine-wildlife-watching-code

DAS, we recommend inclusion of killer whale (orca), white-sided dolphin, common dolphin and humpback whale in addition to those detailed above. Once survey results are available we recommend further consultation to ensure that the key species list is appropriate to inform the impact assessments.

Table 2-41 (*Section 2.6.9.2*) lists specific legislation that will be considered in relation to the marine mammal and megafauna EIA. Just to note that several key pieces of Scottish legislation has been omitted from the list including:

- Cetaceans (removed from the Wildlife & Countryside Act in Scotland) are protected by the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) in Scottish territorial waters, and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2017 in offshore waters.
- Seals are protected under the Marine Conservation (Natural Habitats, &c.) Regulations 2017 in offshore waters.
- Basking sharks are protected by the Wildlife & Countryside Act 1981 (as amended).

Potential impacts

We broadly agree with potential impacts identified in *Table 2-40, Section 2.6.6* and provide some additional advice below:

Pre-construction noise impacts

There are a range of activities likely to be undertaken during the pre-construction period which can emit significant underwater noise e.g. UXO clearance and some geophysical surveys. It is noted in *Section 2.6.1* that UXO clearance will be fully considered as part of a separate European Protected Species (EPS) Licence application and Marine Licence application. Just for clarity these should also be considered in the EIA Report rather than solely post-consent.

We support the joint SNCB/DEFRA/MS statement - Marine environment: unexploded ordnance clearance joint interim position statement[24]. Therefore, we would require the risk assessment to consider a high order detonation in terms of impact and mitigation as the worst case scenario, unless the preferred low order/deflagration method has robust supporting evidence than can be presented.

Construction noise impacts

It is noted in *Table 2-38, Section 2.6.4.3* that at Scapa Flow there is the potential for interaction between seals at haul-out sites and the ECC, just to note that there is also the potential for impacts from the landfall works, which also requires consideration within the EIA Report. This potential impact has also been omitted from the onshore section of the Scoping Report.

Operational noise impacts

Noise related impacts during operation should be scoped in for consideration for floating wind turbines as the floating structure may act as a resonating chamber. This will require further discussion and agreement with NatureScot and Marine Scotland.

[24] https://www.gov.uk/government/publications/marine-environment-unexploded-ordnance-clearance-joint-interim-position-statement/marine-environment-unexploded-ordnance-clearance-joint-interim-position-statement

Disturbance due to physical presence of vessels
We recommend that both vessel collision and vessel disturbance are scoped in for all stages (construction, operation and maintenance, and decommissioning) of the development. A qualitative assessment should be undertaken based on best available literature, with potential impacts to both cetaceans and basking shark considered. In addition, we wish to see separation of the effects from vessel noise and presence (given the differing sizes, types and number of vessels needed for the differing stages of development) and these other activities, and how the influence of such may change depending on the marine mammal species being considered. Cumulatively it will be important to understand the likely level and effect of such disturbance and whether it could result in population level effects on marine mammals.

Changes in prey species availability
Section 2.6.6 doesn't capture changes in prey availability as a result of habitat loss or disturbance in adequate detail. More consideration is required in the EIA Report to ensure that impacts to key prey species (such as sandeel, herring, mackerel and sprat) and their habitats are considered. We recognise most EIA Reports concentrate on receptor specific impacts, however increasingly we need to understand the impacts at an ecosystem scale. 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.

Approach to assessment
The methodology and metrics for underwater noise modelling and assessment of cumulative effects require discussion and agreement with NatureScot and Marine Scotland. To assist this we provide initial advice as outlined below:

Marine mammal densities
Marine mammal densities within the zone of impact are required in order to predict the number of individuals which might be impacted by underwater noise. Information should be available from SCANS for cetaceans and from SCOS/Marine Scotland for seals (Carter et al. 2020)[25]. Data is constantly being gathered, so the most up to date information should be checked and agreed in advance of the application submission.

Population consequences and cumulative impacts
In order to consider the significance of underwater noise disturbance to marine mammals and the consequences of this on relevant populations we advise the application of the iPCoD approach (interim population consequences of disturbance model)[26].

Any requirements for population modelling will be determined by the outputs from underwater noise modelling, and will only apply to key species. Therefore, at the appropriate time, any requirements for population modelling should be discussed and agreed with NatureScot and Marine Scotland.

It is noted in *Section 2.9.6.1* that the risk of injury will be assessed using agreed dual criteria. We advise that consideration of both instantaneous and accumulated permanent threshold shift (PTS) is required, and that this is addressed using thresholds for impulsive and/or non-impulsive

[25] Carter, M.I., Boehme, L., Duck, C.D., Grecian, J., Hastie, G.D., McConnell, B.J., Miller, D.L., Morris, C., Moss, S., Thompson, D. and Thompson, P. (2020). Habitat-based predictions of at-sea distribution for grey and harbour seals in the British Isles. Sea Mammal Research Unit, University of St Andrews, Report to BEIS, OESEA-16-76/OESEA-17-78.
[26] http://www.marine.gov.scot/information/interim-population-consequences-disturbance-model-ipcod

(relevant for the sound in question) as per Southall et al. (2019)[27] and NMFS (2018)[28]. Instantaneous PTS should be provided as unweighted zero-to-peak SPL and will inform the choice of pre-piling mitigation methods. While accumulated PTS should be provided as weighted cumulative SEL and will inform any required assessment of population consequences.

Cumulative impacts

The approach to cumulative impacts assessment for marine mammal interests for HRA, EIA and EPS licensing requirements will also require agreement in advance of submission of the application.

Mitigation and monitoring

Where impact pathways have been identified, we advise that the full range of mitigation techniques and published guidance is considered and discussed in the EIA Report. This should include the development of, and adherence to, a Marine Mammal Mitigation Protocol (MMMP).

Extensive discussions have been held by the FTRAG and MFRAG marine mammal sub-groups regarding potential mitigation and monitoring methods in relation to underwater noise disturbance particularly as a result of pile-driving activity. We anticipate that the approach to noise mitigation will be informed by best available evidence. In addition, we recommend referring to our commissioned reports on noise abatement[29] and entanglement[30], which may be helpful.

Transboundary impacts

We agree transboundary impacts should be considered further.

[27] https://www.aquaticmammalsjournal.org/index.php?option=com_content&view=article&id=1886:marine-mammal-noise-exposure-criteria-updated-scientific-recommendations-for-residual-hearing-effects&catid=174&Itemid=326

[28] https://www.fisheries.noaa.gov/resource/document/technical-guidance-assessing-effects-anthropogenic-sound-marine-mammal-hearing

[29] Verfuss, U.K., Sinclair, R.R. & Sparling, C.E. (2019) A review of noise abatement systems for offshore wind farm construction noise, and the potential for their application in Scottish waters. Scottish Natural Heritage Research Report No. 1070. https://www.nature.scot/naturescot-research-report-1070-review-noise-abatement-systems-offshore-wind-farm-construction-noise

[30] S Benjamins et al. (2014) Understanding the potential for marine megafauna entanglement risk from renewable marine energy developments. Scottish Natural Heritage Commissioned Report No. 791. https://www.nature.scot/naturescot-commissioned-report-791-understanding-potential-marine-megafauna-entanglement-risk

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APPENDIX C - SEASCAPE, LANDSCAPE AND VISUAL IMPACT ASSESSMENT (SLVIA)

Seascape, Landscape and Visual interests are considered in *Section 2.11* of the Scoping Report and we have responded to the scoping questions raised within our advice below.

Design development and iteration

Reference should be made to the Sectoral Plan consultation - *NatureScot Landscape and Visual Impact Assessment and Design Guidance*[31] to inform the initial siting and design within the N1 DPO area.

We support the proposed iterative design approach and agree that most mitigation of landscape and visual receptors is through embedded mitigation in the siting and design of the layout in the OAA. This is ideally a layout which appears logical from multiple sensitive receptors (in line with the design ethos of our *Designing Wind Farms in the Landscape Guidance*[32]). Gaps or seemingly attributable breaks in the wind farm composition (stemming from benthic constraints) would reduce the clarity and cohesiveness of the wind farm when experienced from coastal and sea based receptors, potentially increasing levels of effect individually and cumulatively.

We support the proposed *Seascape and landscape* technical working group and wish to be represented on this group. Through this group we support the development of design principles and a design statement. With this in mind, reference should be made to our guidance[30] above.

Study area

Based on a maximum design envelope wind turbine generator height of 370m, the SLVIA study area is proposed as a maximum 60km radius from the perimeter of the OAA. However, the explanation of the factors affecting prediction of significant effects, including in particular the curvature of the earth and acuity of the human eye, is helpful and we recognise these aspects will duly inform refinement of the scope and study area extents. We would welcome further discussion on these aspects as part of the technical working group.

Baseline information

We support the proposed initial desk based review of available data sources outlined in *Table 2-67* (*Section 2.11.3*) of the Scoping Report. In particular we advise that where coastal character assessment is available, this should be reviewed in relation to scale of assessment and consistency of information between the Caithness and Orkney coasts and seek to remedy any inconsistencies or gaps in the data set.

In relation to *Section 2.11.4.1.2* it is important to note that Rackwick is defined as a Locational Specific Quality (LSQ) within the Hoy and West Mainland National Scenic Area (NSA). Our Sectoral Plan guidance (referred to above) takes particular account of framed views out from Rackwick to mitigate significant effects on this sensitivity.

Viewpoints

Viewpoints proposed for the SLVIA for the Pentland Firth Offshore Floating Wind Farm should be taken account of in the location of proposed viewpoints for the assessment.

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[31] https://www.nature.scot/doc/sectoral-plan-consultation-summary-and-design-guidance
[32] https://www.nature.scot/doc/siting-and-designing-wind-farms-landscape-version-3a

Given the quality of the Zones of Theoretical Visibility (ZTV) Figures (*Figures 2-42 to 2-45, Section 2.11.4.1*) it is difficult to ascertain the specific location of several of the viewpoints proposed in relation to predicted visibility. For further discussion of proposed viewpoints and to agree the final locations it would be useful if more detailed maps could be accessed (on a virtual storage location for example) as part of the technical working group collaboration.

At this stage we recommend the following additions/amendments:

- Rackwick - a LSQ within the NSA - taken from Rackwick comprising a framed view out to the OAA site. Initial wirelines could be used to inform the preferred location.
- Coastal views from the Kyle of Tongue NSA.
- VP 15 - it is difficult to ascertain the exact location of this viewpoint in relation to the sensitivities of Stromness and elevation of views which may have visibility.

For night-time visualisations we advise that baseline images are rendered to show a noticeable contrast between the land, sea and sky. Low light levels represent typical twilight conditions (i.e. dawn/dusk) and allow some consideration of the landscape context.

Potential impacts

We are broadly content with the impacts proposed to be scoped in for seascape, landscape and visual resources as per *Table 2-71, Section 2.11.6*. However, whilst we understand that the construction period is only for a relatively short period of time, the change of the seascape from undeveloped open water to a construction site, will incur a significant amount of change. In addition, this change is likely to be emphasised and exacerbated by the high levels of marine vessels to facilitate the construction of the wind farm. Furthermore, the shipping movements from and to the site will exacerbate the levels of effect. Therefore, NatureScot request that a proportionate and focussed assessment of construction effects on the landscape and visual receptors be scoped in. This is consistent with previous advice on this aspect of offshore wind energy assessment.

The scoping in and out of effects on Wild Land Areas (WLAs) and NSAs where there is or isn't predicted visibility to a proposal is not in accordance with NatureScot's guidance for assessing impacts on WLAs[33] or NSAs. Assessment of effects on the qualities or attributes of these protected landscapes requires a nuanced approach and one that is not strictly defined by whether or not there is visibility. The ZTV indicate notable areas of predicted visibility for the North-West Sutherland NSA, the Ben Hope - Ben Loyal WLA and The East Halliday Flows WLA and at this stage should remain scoped in. As part of the technical working group we would be happy to discuss this matter further, if possible informed by wirelines from within these protected areas.

Impact assessment

We are generally in agreement with the proposed methodology for SLVIA and CLVIA outlined in the Scoping Report in that it reflects and takes cognisance of current good practice.

NatureScot (in Partnership with both National Park Authorities) have been developing technical guidance (in draft) in relation to assessing the effects on Special Qualities of the NSAs *Assessing the Effects on Special Landscape Qualities* (AESLQ) which is available on request.

[33] https://www.nature.scot/doc/assessing-impacts-wild-land-areas-technical-guidance

Our draft guidance[34] on the assessment of artificial lighting (where there is the potential to be a significant effect) should be considered to inform the assessment of the effect of wind turbine generator navigation and aviation lighting.

Cumulative impacts

For the most up to date information on which existing, under construction, consented and proposed proposals to include in the CLVIA we recommend contacting the relevant local authorities for the cumulative assessment with onshore wind energy, and to Marine Scotland, for offshore wind energy.

Transboundary impacts

We agree that there are unlikely to be any transboundary impacts for seascape, landscape and visual impacts.

[34] https://www.nature.scot/visual-representation-wind-farms-guidance

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APPENDIX D - BENTHIC INTERESTS

Benthic interests (both subtidal and intertidal) are considered in *Section 2.3* of the Scoping Report and we have responded to the scoping questions raised within our advice below where possible.

The information provided in this section of the Scoping Report is high level with little information provided on the project site-specific studies. Therefore, our advice below is proportionate to the level of detail provided in the Scoping Report.

Study area
We are content with the study area proposed as described in *Section 2.3.2*, which includes the area that will be directly impacted by the offshore infrastructure and the adjacent areas that may be affected by indirect impacts. Although, the intertidal area is not specifically mentioned here it is noted in *Section 2.3.3.1*, that '*intertidal surveys will also be conducted at the cable landfalls*'. It would be useful to have clarification on what surveys will be undertaken here.

Baseline environment
We are content that *Table 2-14, Section 2.3.3* captures relevant baseline datasets.

We welcome the planned benthic and intertidal surveys to help inform baseline characterisation and recommend that survey scopes are agreed in advance.

Section 2.3.4.1.4 identifies protected sites with benthic interests in proximity to the OAA and ECC. All of the protected features of the North-west Orkney Nature Conservation Marine Protected Area (NC MPA), which borders and slightly overlaps with the ECC should be screened in. In addition, impacts on the Mucklehead and Selwick Site of Special Scientific Interest (SSSI) may need to be considered depending on where the landfall lies in relation to this protected area.

We expect consideration to be given to key Annex 1 habitats and Priority Marine Features (PMFs) in the EIA Report[35].

We are aware that flapper skate (a PMF) and their eggs, may be present in the project area due to the large number of empty egg cases that wash up on the west coast of Orkney (Shark Trust, Great Egg Case Hunt, Orkney Skate Trust). Female flapper skate are thought to lay eggs on cobble/boulder habitat in 20-50m but may lay in shallower or deeper water than this. Flapper skate on the west coast of Scotland exhibit high occupancy of the deep trenches (100-150m) in the seabed in the summer with a seasonal trend of (large females especially, which suggests an associated with egg laying) moving into shallow water (25-75m) over winter months (Thorburn et al. 2021)[36]. Therefore, potential impacts to flapper skate should be included in the EIA Report.

Potential impacts
Habitat loss and disturbance
Habitat loss and disturbance (both temporary and long term) is a key impact pathway detailed in *Table 2-18, Section 2.3.6* for construction, operation and maintenance and decommissioning. All appropriate pre-construction seabed preparation works should also be included.

[35] https://www.nature.scot/professional-advice/protected-areas-and-species/priority-marine-features-scotlands-seas
[36] Thorburn, J A et al (2021) ' Seasonal and ontogenetic variation in depth use by a critically endangered benthic elasmobranch and its implications for spatial management ' , Frontiers in Marine Science , vol. 8 , 656368 .https://doi.org/10.3389/fmars.2021.656368

We recommend that if scour protection is required, that potential impacts are scoped in for assessment.

Suspended sediments
The potential creation and dispersal/settlement of suspended sediments may vary with differing foundation types and/or construction/decommissioning methods. It will be important to consider if this will have significant effects and for this to be quantified and the impacts correctly assessed. There will be differing impacts on different habitats and species and these should be carefully considered.

Colonisation of hard structures
We agree with the consideration and inclusion of hard structure colonisation in *Table 2-18, Section 2.3.6*. This is important in considering the potential spread of marine invasive non-native species and ensuring appropriate mitigation and monitoring is embedded to combat this, both of which may differ depending on the foundation type(s) used. This will also be useful from an engineering perspective - depending on the hard structure in question, removal of encrusted growth may be necessary throughout the life time of the wind farm development, and if so, should be factored in to the assessment.

As noted in the Scoping Report, the introduction of hard structures (e.g. turbine and OSP foundations, scour protection and cable protection) could also result in a change in community type from species typical of sedimentary habitats to those typical of hard substrata. We recognise that the long-term effect of such introduction is not fully understood at present, and that this change may provide positive and/or negative effects for different receptors and as such should be carefully considered. This will also help inform how any local increase in species diversity may influence prey species availability.

It would therefore also be helpful if commentary is provided in the EIA Report on stabilisation operations to allow further understanding of the potential nature conservation impact. This would include:

- Location of dump sites
- Type/size/grade of rock to be used
- Tonnage/volume to be used
- Contingency tonnage/volume to be used
- Method of delivery to the seabed
- Footprint of rock
- Assessment of the impact

Where protective material cannot be avoided, we recommend using a more targeted placement method e.g. fall pipe vessel rather than using vessel-side discharge methods. We also recommend that consideration is given to minimise the amount of hard substrate material used during the operations and maintenance, of the wind farm and that the worst-case quantity is assessed for the lifetime of the project. Where materials have to be used we also encourage that consideration is given to the choice of materials (composition and size) and their ability to be recovered during decommissioning, including any potential opportunities for nature inclusive design.

Changes in prey species availability
Table 2-18 doesn't capture changes in prey availability as a result of habitat loss or disturbance. However, it is noted in *Section 1.4.2.4* that in addition to impacts on individual receptors, a more holistic approach to consider impacts at an ecosystem scale and across trophic levels will also be

taken, which is welcomed. Consideration across key trophic levels will enable better understanding of the consequences (positive or negative) of any potential changes in prey distribution and abundance as a result of impacts to benthic habitats and how this may influence population impacts for marine mammal (and other top predator) interests.

Approach to assessment

Limited information is provided on how impacts to benthic interests will be assessed. However, it is noted in *Section 2.3.9* that a marine ecology working group will be established to discuss survey methods, interim results, assessment methods and outputs.

The EIA Report should where possible quantitatively describe the impact of habitat loss and disturbance (temporary and permanent) from the development alone and in combination with other developments. If it is not possible to quantify impacts, then further discussion, perhaps through the technical working group, around a qualitative assessment will be required.

Consideration should also be given to indirect impacts on birds, fish and marine mammals, where appropriate.

Cumulative impacts

We are content with the approach outlined in *Section 2.3.7* but advise that, particularly for Scapa Flow, there may be the potential for cumulative effects from other types of development, aquaculture and port/harbour construction in particular, and these should be included in any cumulative assessment.

Mitigation and monitoring

Where impact pathways have been identified and are scoped in, we advise that the full range of mitigation techniques and published guidance is considered and discussed in the EIA Report.

There may be a need for strategic monitoring to understand the impact of hard structure colonisation and change in community structure and local species diversity.

Transboundary impacts

We advise that there are unlikely to be any transboundary impacts for benthic features.

NatureScot SCOPING ADVICE for WEST OF ORKNEY OFFSHORE WIND FARM

APPENDIX E - FISH AND SHELLFISH INTERESTS

Fish and shellfish interests are considered in *Section 2.4* of the Scoping Report. Our advice below focuses on those fish and shellfish species, and where appropriate their associated habitats, that are protected features of European sites or Nature Conservation MPAs as well as those that are of conservation importance including PMFs and key prey species. In addition, we have responded to the scoping questions raised within our advice below where possible.

Study areas
We are content with the study areas defined in *Section 2.4.2*.

Baseline environment
We are content that *Table 2-20* (*Section 2.4.3*) captures relevant baseline datasets but recommend the inclusion of 'Essential Fish Habitat Maps for Fish and Shellfish Species in Scotland' developed by the Scottish Marine Energy Research (ScotMER)[37]programme, which is due for publication shortly.

Diadromous fish
Section 2.4.4.1.5 correctly identifies the Rivers Thurso, Naver and Borgie Special Areas of Conservation (SAC) as all discharging along the north coast in the vicinity of the development. It also notes that the Pentland Firth and the waters around Orkney are potentially important migratory routes for Atlantic salmon. Therefore, we highlight at this stage that there is the potential for connectivity with other SACs, including Berriedale and Langwell Waters, Foinaven and Little Gruinard River. There may be relevant information on the routes some of the adult salmon use to and from these SACs, particularly from the Atlantic Salmon Trust (Moray Firth and Laxford tracking projects), that could help inform connectivity assessments.

It is noted in *Section 2.4.4.1.2* that migratory movements of Atlantic salmon around the north of Scotland are still not well known. Timing of fish migration is an important element that will require careful consideration in the impact assessment and in what mitigation may be necessary and when it should be applied.

Priority Marine Features (PMFs)
In addition to being qualifying features of European sites, Atlantic salmon are PMFs[38] along with European eel and sea trout, which are identified in *Section 2.4.4.1.5*.

European eel is a conservation priority due to a dramatic drop in its population over the last 20 years; it is listed as 'critically endangered' on the IUCN Red list. However, very little is known about their migration pathways, either as juveniles or adults. Malcolm et al. (2010)[39] contains a review of available data in relation to migration routes and behaviour, and Gill & Bartlett (2010) [40] on effects of noise and electromagnetic fields (EMF) on European eel as well as sea trout. Sea

[37] https://www.gov.scot/policies/marine-renewable-energy/science-and-research/
[38] https://www.nature.scot/professional-advice/protected-areas-and-species/priority-marine-features-scotlands-seas
[39] Malcolm I.A., Godfrey J., Youngson A.F. (2010) Review of migratory routes and behaviour of Atlantic salmon, sea trout and European eel in Scotland's coastal environment: implications for the development of marine renewables. Scottish Marine and Freshwater Science Vol 1, No 14
[40] Gill, A.B., Bartlett, M. (2010) Literature review on the potential effects of electromagnetic fields and subsea noise from marine renewable energy developments on Atlantic salmon, sea trout and European eel. Scottish Natural Heritage Commissioned Report No.401

trout support a number of fisheries in Scotland and many of these fisheries have undergone declines in the last 25 years. Note that sea trout can also be a host species for freshwater pearl mussel (FWPM).

We would also suggest that more of the anadromous fish species, which are correctly identified within the onshore sections of the Scoping Report, are included, such as sea lamprey and river lamprey.

We welcome the approach to consider the importance of fish species (such as herring, sandeels, mackerel, whiting, cod and sprat) as key prey species to better inform the impact assessment for seabirds and marine mammals, noting that many of these are also PMFs.

Shellfish
The shellfish species identified within *Sections 2.4.4.1* and *2.4.4.2* of the Scoping Report focus on a limited number of commercial species with no information provided on other species likely to be present within the project area such as flame shell, horse mussel etc., which are PMFs and will also require consideration.

We support the consideration of FWPM given that Atlantic salmon (and other salmonids) are integral to the life cycle of this species. Therefore, any impacts to salmonids that prevent them from returning to their natal rivers may have a resulting effect on FWPM.

Spawning and/or nursery grounds
As noted in *Section 2.4.4.1.4* the project overlaps with spawning and nursery grounds for several species, including sandeel, whiting, sprat, cod and herring, all of which are sensitive to impacts caused by offshore wind farm developments. In addition, as identified in the Scoping Report, Sandeel is a feature of the North-West Orkney NC MPA, which overlaps with the project area.

As mentioned in our benthic advice (Appendix D) we are aware that flapper skate and their eggs, may be present in the project area due to the large number of empty egg cases that wash up on the west coast of Orkney (Shark Trust, Great Egg Case Hunt, Orkney Skate Trust). Female flapper skate are thought to lay eggs on cobble/boulder habitat in 20-50m but may lay in shallower or deeper water than this. Flapper skate on the west coast of Scotland exhibit high occupancy of the deep trenches (100-150m) in the seabed in the summer with a seasonal trend of (large females especially, which suggests an associated with egg laying) moving into shallow water (25-75m) over winter months (Thorburn et al. 2021). Therefore, potential impacts to flapper skate should be included in the EIA Report.

Potential impacts
Table 2-24, Section 2.4.6 of the Scoping Report summarises the impacts proposed to be scoped into the assessment.

Habitat loss and disturbance
Habitat loss and disturbance (both temporary and long-term) is a key impact pathway identified for construction, operation and maintenance and decommissioning activities. All appropriate pre-construction seabed preparation works should also be included.

Underwater noise
UXO clearance should be explicitly considered in the assessment as should disturbance from construction related noisy activities, depending on the foundation type/installation method proposed.

With respect to Atlantic salmon, recent research by Harding et al. (2016)[41] should be considered which found that soft-start and ramp-up procedures associated with piling activity may be ineffective as mitigation to protect Atlantic salmon from noisy activities as fish did not show immediate avoidance behaviour in the presence of piling noise. Available research on Atlantic salmon behaviour at sea indicates that ceasing relevant noisy activities (such as piling) during the hours of darkness could help to mitigate potential impacts. Consideration should also be given to limiting or ceasing relevant noisy activities during daylight hours including during periods when high numbers of young Atlantic salmon could be migrating through these waters.

It is noted in *Table 2-24* that it is intended to scope out noise during the operation and maintenance phases. As detailed above within our marine mammal advice (Appendix B), noise related impacts during the operation and maintenance phase should be scoped in for floating wind turbines as the floating structure may act as a resonating chamber. This will require further discussion and agreement with NatureScot and Marine Scotland.

EMF
Impacts from EMF from subsea electromagnetic cabling must consider all relevant fish species, including elasmobranch species, nephrops and diadromous fish, including migratory fish.

Increased suspended sediments
The potential creation and dispersal/settlement of fine sediments may vary with differing foundation types and/or construction/decommissioning methods, which can be an issue for some migratory fish. However, given the incredibly open, and generally turbulent location of this development we agree that this impact pathway can be scoped out for further assessment as detailed in *Table 2-24.*

Colonisation of hard structures
We are content that the colonisation of hard structures has been scoped into the fish and shellfish section for assessment.

Changes in prey species availability
Table 2-24 (*Section 2.4.6*) doesn't capture changes in prey availability as a result of habitat loss or disturbance in adequate detail. More consideration is required in the EIA Report to ensure that impacts to key prey species (such as sandeel, herring, mackerel and sprat) and their habitats are considered for this development and in combination with other wind farms. As mentioned above we recognise that most EIA Reports concentrate on receptor specific impacts. However, 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. Thus, 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. In addition, the PrePARED (Predators and Prey Around Renewable Energy Developments) project will also assist in the understanding of predator-prey relationships in and around offshore wind farms which will start in January 2022 and run for five years.

[41] Harding H., Bruinthes R., Radford A., N., Simpson S., D. (2016) Measurement of hearing in the Atlantic salmon (Salmo salar) using auditory evoked potentials, and effects of pile driving playback on salon behaviour and physiology. Scottish Marine and Freshwater Science Report Vol 7 No 11

Approach to assessment
We welcome the intention as noted in *Section 2.4.3.1* that benthic ecology surveys e.g. habitat maps and particle size analysis will be used to understand the suitability of the seabed habitat for sandeel and herring spawning.

North-West Orkney NC MPA
The EIA Report should make a clear assessment of the specific impacts of the proposed development on its own and in combination with other developments against all the designated features of the North-West Orkney NC MPA including for sandeel.

PMFs
We advise that the assessment should quantify where possible the likely impacts to key PMFs and consider whether this could lead to a significant impact on the national status of the PMFs being considered[42]

Cumulative impacts
The EIA Report should consider the cumulative effect of key impacts such as habitat loss/change especially in relation to diadromous fish as well as key fish and shellfish species that contribute ecological importance as a prey resource. This may differ depending on the life stage being considered.

Mitigation and monitoring
We advise that the full range of mitigation measures and published guidance is considered and discussed in the EIA Report.

Monitoring of sandeels is a welcomed approach. However, consideration will be needed as to when the surveys take place post construction as well as the methodology. Survey post construction should be based on expected recovery time, this could be informed by other wind farms that have undertaken sandeel surveys such as Beatrice in the Moray Firth. In addition, further consideration over survey methods and whether it can be undertaken using non-invasive methods such as using a drop down camera should be explored. It would also be beneficial to look at sandeel recovery in relation to fishing pressures as it may be possible to look at potential recovery post construction prior to fishing returning to the site and then again post fishing.

We also welcome the cod maturity and herring larval site specific surveys as noted in *Section 2.4.3.1* in the Scoping Report. Although as above, the duration of the survey (before and after construction) should be considered further.

Transboundary impacts
There is the potential for transboundary impacts as noted in *Section 2.4.8* and this will require further discussion and agreement with NatureScot and Marine Scotland.

[42] https://www.nature.scot/priority-marine-features-guidance

NatureScot SCOPING ADVICE for WEST OF ORKNEY OFFSHORE WIND FARM

APPENDIX F - PHYSICAL PROCESSES

Physical processes are considered in *Section 2.1* of the Scoping Report and we have responded to the scoping questions raised within our advice below.

Study areas
We are content with the study areas proposed including the consideration of 'both near field and far field effects', which should include potential impacts on receptors *outwith* the study area, in particular the Marine Geomorphology of the Scottish Shelf Seabed feature of the North-West Orkney NC MPA.

Baseline information
We agree that the relevant data sources have been included in *Table 2-1* (*Section 2.1.3*) apart from the inclusion of the 2017 initial outputs of the Dynamic Coast project. We recommend that the data source should be changed to the 2021 'Dynamic Coast 2' mapping project[43], which supersedes that from 2017 to take account of future sea-level rise.

Potential impacts
Table 2-2, Section 2.1.4.1.9, lists the relevant designated sites that may be impacted. The following geological notified features of designated sites that could potentially be impacted and therefore should be added to those considered 'relevant' include: Non-marine Devonian in Red Point Coast SSSI and Moine in Strathy Coast SSSI.

We are broadly content with the impacts that are scoped in. However, we recommend the following additional impact should also be scoped in for assessment:

Change to coastal processes and landforms resulting from measures to address any re-exposure by coastal change of a buried cable landfall.

Due to accelerating sea-level rise, some landfall locations could experience coastal retreat over decades, manifested as periodic beach lowering and erosion of the coastal edge during clusters of storms. If this resulted in re-exposure of buried cable(s), then work to secure the cable(s) such as re-burial or installation of hard protection, could affect coastal processes and landforms. Robust planning for this eventuality would help adapt the overall project to one of the key effects of climate change.

Approach to assessment
We are generally content with the assessment methods described in *Section 2.1.9*. However, at present there isn't any detail on the proposed hydrodynamic modelling. We recommend the methods for modelling (and analysis of sediment transport), including how results would be presented, should be the subject of technical consultation to relevant consultees including NatureScot, prior to the modelling being undertaken.

Cumulative impacts
We are content with the approach outlined in *Section 2.1.7,* but advise that particularly for Scapa Flow there may be the potential for cumulative effects from other types of development,

[43] www.dynamiccoast.com

aquaculture and port/harbour construction in particular, and these should be included in any cumulative assessment.

Mitigation and monitoring
Where impact pathways have been identified and are scoped in, we advise that the full range of mitigation techniques and published guidance is considered and discussed in the EIA Report.

Transboundary impacts
We advise that there are unlikely to be any transboundary impacts.

North and East Coast Regional Inshore Fisheries Group

From:	MS Marine Renewables
To:	Malcolm J (Jessica); Renwick J (Jane)
Subject:	FW: FW: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion
Date:	24 May 2022 09:20:32

From: Jennifer Mouat <jenny.mouat@btinternet.com>
Sent: 23 May 2022 17:49
To: MS Marine Renewables <MS.MarineRenewables@gov.scot>
Cc: England D (Debbie) <Debbie.England@gov.scot>; Ross R (Rebecca) <Rebecca.Ross@gov.scot>
Subject: RE: FW: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion

Good evening

I am relpying in connection with the SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion.

We firstly very pleased to see that fishing had been comprehensively accounted for. The cable corridor options are, however, very large and we would ask that the fishing industry are approached and involved in the cable positions. There are a number of fishers who have experience of foisting in the area of the proposed wind farm and would be well placed to provide information to the developers.

With regard to section 2.4.10 we would answer yes to all the questions.

Thank you for the opportunity to comment

Kindest regards

Jennifer

Northern Lighthouse Board

Northern Lighthouse Board

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Email: enquiries@nlb.org.uk

Your Ref: SCOP-0012 – West of Orkney OWF – EIA Scoping Opinion
Our Ref: AL/OPS/ML/O6_19_715

Ms Jane Renwick
Marine Licensing Casework Manager
Marine Scotland – Marine Planning and Policy
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

4 April 2022

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

Request for Scoping Opinion for Proposed Section 36 and Marine Licence Applications for the West of Orkney Offshore Windfarm Located 23KM North of the Caithness Coast and 28KM West of Hoy, Orkney

Thank you for your e-mail correspondence dated 1st April 2022 relating to the Scoping Request submitted by **Offshore Wind Power Limited** relating to the proposed West of Orkney Offshore Windfarm.

Northern Lighthouse Board note the inclusion of Section 2.8 (Shipping and Navigation) within the Scoping Report, and will continue to engage with the developer in all aspects of navigational safety with regard to the project. NLB will provide specific lighting and marking recommendations for both the offshore and landfall sites as the project develops.

NLB have no objection to the content of the Scoping Report.

Yours sincerely

[redacted]

Peter Douglas
Navigation Manager

Orkney Fisheries Assocation

2.4.10 Scoping Questions

- **Do you agree with the study area for the fish and shellfish ecology EIA?**

There is mention of migratory fish species, but no mention of other commercially important migratory species, such as brown crab.

- **Do you agree with the data sources listed to be used to inform the EIA baseline?**

Yes

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

N/A

- **Do you agree with the suggested embedded mitigation measures and is this mitigation appropriate?**

N/A

- **Do you agree that all receptors and impacts have been identified for fish and shellfish?**

- **Do you agree that the impacts suggested can be scoped out of the fish and shellfish EIA section?**

- **Do you agree with the approach for the cumulative effects assessment and for transboundary effects?**

Yes, but EMF impacts should be included as well as noise.

- **Do you agree with the approach to the analysis and assessment that will inform the EIA**

Section 2.4.9.1 identifies key consultees- including "Orkney Fisheries Society". Orkney Fisheries Society does not exist- there is Orkney Fisheries Association, Orkney Sustainable Fisheries, Orkney Fishermen's Society, and the Orkney Trout Fishing Association.

2.7.10 Scoping Questions

- **Do you agree with the study area for the commercial fisheries EIA?**

Yes

- **Do you agree with the data sources listed to be used to inform the EIA baseline?**

Yes, but echo the fact that ScotMap data is outdated.

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

N/A

- **Do you agree with the suggested embedded mitigation measures and is this mitigation appropriate?**

Yes

- **Do you agree that all receptors and impacts have been identified for commercial fisheries?**

• Do you agree with the approach for the cumulative effects assessment and for transboundary effects?

Yes

• Do you agree with the approach to the analysis and assessment that will inform the EIA?

• Are there any additional commercial fisheries organisations that you would recommend be consulted

Consultees include “Orkney Fisheries Society”. Orkney Fisheries Society does not exist- there is Orkney Fisheries Association, Orkney Sustainable Fisheries (which is the IFG), and Orkney Fishermen’s Society. Additionally, it is “Orkney Trout Fishing Association” not Orkney Trout Fishermen’s Association.

2.14.10Scoping Questions

• Do you agree with the study areas defined?

N/A

• Are the identified data sources appropriate for the baseline characterisation of the local study area?

N/A

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

N/A

• Do you agree that all receptors and impacts have been identified for socio-economics?

This section does not adequately address the socio-economic impact on vessels from a potential loss of fishing grounds, or the potential decreased catches due to impacts such as noise and EMF on catches.

The impact of the development on commercial species such as crab, as well as the potential for the loss of fishing grounds may have an impact on the local crab processors who rely heavily on the vessels fishing within the development area.

• Do you agree that the impacts suggested can be scoped out of the EIA section?

Will depend on how they incorporate fisheries data into the assessment.

• Which major energy or other infrastructure projects should be included as part of the cumulative impact assessment?

N/A

• Do you agree with scoping out transboundary impacts?

N/A

• Do you agree with the proposed approach assessment?

Will depend on how they incorporate fisheries data into the assessment.

Orkney Islands Council

22/134/MARCON

SCOP-0012 – Offshore Wind Power Ltd – The West of Orkney Windfarm

OIC DELEGATE RESPONSE

GENERAL COMMENTS

Orkney Islands Regional Marine Plan (OIRMP)

It should be noted that Orkney Islands Council (OIC) are preparing the Orkney Islands Regional Marine Plan (OIRMP) which is scheduled to be deposited for public consultation, as a consultation draft, in Summer 2023. Following this consultation, and subject to approval by Scottish Ministers, the OIRMP is scheduled to be adopted in 2024.

When the West of Orkney Wind Farm development proposal is submitted and determined for the various statutory consents, the OIRMP is likely to 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 (e.g. with reference to Section 2.3.9.1 of the scoping report). https://www.legislation.gov.uk/ssi/2011/79/made

OIC POLICY OFFICER (ENVIRONMENT) COMMENTS

Designated sites

The Orkney onshore export cable corridor search area includes many sites that are designated for their natural heritage interest – internationally, nationally, and locally. The environmental effects of the project on the interests of these sites should therefore be assessed and the findings presented in the Environmental Statement. The assessment should address both direct and indirect effects, e.g., disturbance, displacement, and loss of breeding / foraging habitat, as well as effects that may result in accumulation with other development that affects these sites. Careful consideration should also be given to the timing of each stage of the project.

Internationally and nationally designated sites

The search area includes the following national and internationally designated sites:

- Hoy SAC/SPA/SSSI
- Scapa Flow SPA
- Muckle Head and Selwick SSSI

These sites are designated on account of their ornithological, botanical and geological/geomorphological interest. Further information on the qualifying interests and sensitivities of these sites, as well as maps showing their location and boundaries, is available online from NatureScot's Sitelink facility at https://sitelink.nature.scot/home

Please note that the potential landfall site at Murra appears to be very close to the Muckle Head and Selwick Head site and may even overlap it.

Locally designated sites

The search area passes through several Local Nature Conservation Sites. These include:

- Witter, Braebuster Burn & Hoy Lodge Marsh
- Bu, Moaness (Hoy)
- Quoys, Glen (Hoy)
- Tui Fea (Hoy)
- Whaness Burn (Hoy)
- Hoy and North Walls SSSI Moorland Fringes
- Crockness, North Walls (Hoy)
- Fara
- West Hill, Flotta
- Golta, Flotta

Overall, these sites are designated for their botanical interest and also for the wide range of birds, mammals (including otter and mountain hare) and invertebrates they support. Quoys, Tui Fea and Whaness Burn also include remnants of Orkney's native woodland. LNCS site statements, including Phase 1 habitat maps may be accessed online at:

https://www.arcgis.com/apps/MapJournal/index.html?appid=273d8d6359ae451cbe16f3a867297276

The Scoping Report confirms that "*if the export cable corridor search area and substation search area are further refined in line with the survey programme, then an ornithological desk top study and subsequent field surveys will be focused around the export cable corridor and onshore substation footprints including survey specific buffers following the standard survey methodology outlined in Table 4-25*." I recommend that advice should be sought from NatureScot on the frequency and duration of the ornithological surveys, as well as guidance on locations for any vantage point surveys that are deemed necessary.

Habitats and vegetation

The Scoping Report confirms that standard Phase 1 Habitat methodology will be used to map all habitats and identify habitats and areas of ecological importance. I understand that the survey will include the Project Area plus a 250 m survey buffer to provide context.

It is likely that parts of the search area passes through habitats that are highly groundwater dependent, i.e., Groundwater Dependent Terrestrial Ecosystems or GWDTEs. I recommended therefore that, in these locations, both a Phase 1 habitat survey and an NVC survey should be carried out, as findings from the NVC survey would provide a better basis for assessing likely effects on GWDTEs. The applicant should seek advice from NatureScot and the Scottish Environment Protection Agency (SEPA) on the areas to be included in these surveys.

The Environmental Report should clearly quantify the area of natural and semi-natural habitat that would be damaged or lost to each alternative route under consideration. Where possible, opportunities to incorporate benefits for biodiversity should be identified.

European Protected Species – Otter

The Scoping Report confirms that an otter survey will be carried out and the findings included in the Environmental Statement. Considering the entire area's proximity to the sea and the number of freshwater burns exiting to the sea, much of the area of search will need to be included in these surveys. Further information on otters and the law is available from the NatureScot website at https://www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-otters

European Protected Species – Bats

The Scoping Report confirms that a bat survey will be carried out. Within the search area, wooded areas including the plantation close to Hoy Lodge, may be used by bats. Table 3: Ecological survey calendar in the Council's Supplementary Guidance Natural Environment provides information on optimal times to undertake bat surveys in Orkney. However, in the first instance, I recommend that the local bat group is contacted for more accurate and up to date advice on potential bat presence. Contact details may be provided by the Development Management team. Further information on bats and the law is available from the NatureScot website at https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-bats

Migratory fish – sea trout

Information on the locations of Orkney's main sea trout spawning burns was previously provided to Orkney Islands Council by the Orkney Trout Fishing Association and this has been included in Map DC4 of Supplementary Guidance Aquaculture. This indicates that the following sea trout burns are located within the search area:

- Rackwick
- Whaness Burn
- Lyrawa Burn
- Mill Burn
- Burn of Ore

The Scoping report notes that in the Orkney LBAP 2018 the link to summary conclusions from electrofishing surveys carried out by OTFA is broken. I recommend therefore that the OTFA is contacted directly for further information.

Water environment

The onshore search corridor includes many small water bodies, therefore potential effects of all stages of the development on the water environment should be assessed and addressed in line with the requirements of Local Development Plan Policy N9 Natural Heritage and Landscape, part D: The Water Environment and part E: Peat and Soils. Careful consideration should be given to any planned onsite storage of excavated soils, as stockpiles of bare soil are vulnerable to erosion, particularly during wet weather. Poorly sited stockpiles may pose a risk to watercourses in this area. These assessments should be undertaken in line with guidance which is available from the SEPA website at www.SEPA.org.uk/. Please also see advice provided below in relation to the requirement to prepare a peatland / soil management plan.

Peat and carbon-rich soils

Scotland's Carbon and Peatland Map 2016 indicates that much of the onshore search area is underlain by peat and peaty soils, including some areas of Class 1 nationally important carbon-rich soils, deep peat and priority peatland habitat. The potential effects of all stages of the development on peat and carbon-rich soils should therefore be assessed and addressed in line with the

requirements of Local Development Plan Policy N9 Natural Heritage and Landscape, part E: Peat and Soils.

To minimise disturbance to peat/carbon-rich soils and the release of stored carbon, a peatland / soil management plan should be prepared, which is supported by a peat survey and clearly demonstrates how the unnecessary disturbance, degradation and erosion of peat and soils will be avoided and, where this is not possible, minimised and mitigated. The peat management plan should include the following information:

- the quantity of peat/carbon-rich soil that would be excavated.
- the timing of excavation of peat/carbon-rich soil and vegetation.
- the type of machinery that would be used.
- how and where the peat/carbon-rich soil and overlying vegetation would be stored prior to its reinstatement.
- how and when the excavated areas and vegetation would be reinstated.
- identification of appropriate areas locally for the relocation of any surplus peat/carbon-rich soil and vegetation.

Seals

The EIA will have to assess and address the likely effects on seals. Seals are vulnerable to disturbance when on land, and especially during the pupping season when pups risk becoming separated from their mothers. The search area includes a number of designated seal haulouts and grey sea pupping areas which can be viewed on the National Marine Plan interactive map at https://marinescotland.atkinsgeospatial.com/nmpi/

Please note that some of these coincide with potential cable landfall sites, e.g., Murra and Green Head in Hoy and the north and east coast of Fara,

European Protected Species – Cetaceans

Cetaceans are frequently seen in Orkney's coastal waters, including Scapa Flow. Common porpoise is often sighted off the eastern coast of Hoy. An assessment should therefore be undertaken of the likely effects of the cable deployment on cetaceans, to determine any EPS licensing requirement. Further information on cetaceans and licensing is available on the Marine Scotland website at https://www.gov.scot/policies/marine-and-fisheries-licensing/marine-licensing/

Benthic Priority Marine Features (PMF)

Within the marine area of search, the National Marine Plan interactive online map indicates the presence of a certain benthic habitats and species that are classed as Priority Marine Features. These include Flame shell beds, Horse mussel beds and Maerl beds and Fan mussel. Another PMF known to be present in Scapa Flow is the Ocean quahog. Benthic surveys should therefore be undertaken to determine the distribution and extent of benthic PMFs that could be affected by the cable-laying process and the findings used to inform the proposed route of the cables. It should be noted that, in addition to their biodiversity value, flame shell beds, horse mussel beds and maerl beds are features which, over time, can accumulate and store significant quantities of carbon.

Basking shark

Basking sharks are regularly seen within Scapa Flow. 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.

COMMENTS ON SCOPING REPORT SECTIONS

1.1.4 Consenting Strategy

Offshore infrastructure should include the requirement for a works licence for marine works located below MHWS in Scapa Flow.

1.3.1 Site Selection and Consideration of Alternatives

1.3.1.3 Offshore Transmission Infrastructure states that '*The routing process resulted in an offshore export cable corridor search area directly from the OAA to the Caithness landfall sites. However, for Orkney, there were significant marine constraints when routing directly to Flotta associated with the strong tidal regime within the Pentland Firth, hard substrate, marine archaeological wrecks and shipping navigation restrictions. As such, the offshore export cable corridor search area involves an onshore section across the island of Hoy (and potentially Fara) before crossing Scapa Flow and landing on the island of Flotta'.*

It is important that a clear and adequately detailed assessment of alternatives is provided as part of the EIA process. This should provide information on the options considered to connect the proposed export cables to Flotta via alternative routes, for example, via the Pentland Firth as a wholly marine cable, via Hoy Sound as a marine cable or making landfall to the south coast of Hoy crossing North Walls to Flotta. All potential cable routes have a variety of environmental and wider constraints that should be appraised to determine the least impactful option. Clear justification should be provided if a cable route is not considered technically feasible e.g. laying and fixing cables in high energy tidal channels with hard seabed substrate. It is acknowledged that certain routes could be discounted based on technical feasibility alone, though appropriate justification should be provided.

The assessment of alternatives should provide an appraisal of the environmental, historic, infrastructure, economic and community assets/features/sensitivities/activities associated with the cable routes considered. This will enable consenting authorities to determine whether an appropriate route has been selected ensuring that environmental and any other relevant impacts have been avoided, minimised and/or appropriately mitigated.

1.3.5.1.2 Onshore

It is stated that construction works would typically be undertaken 24 hours a day, 7 days a week onshore. The EIA should consider mitigation options to minimise local amenity issues due to noise, lighting, vibration etc, including appropriate timing of construction works.

1.3.5.2 Operations and Maintenance

It is anticipated that the Project will be managed from a local onshore facility for the lifecycle of the Project. The EIA should provide further detail on the location of these facilities and consider any impacts on infrastructure and land use.

2.1.6 Scoping of Impacts

It is stated that *'As pathways, physical and coastal processes have the potential to lead to changes with onward impacts to receptors associated with other EIA topics, including but not limited to*:

• Water and sediment quality; • Commercial fisheries;

• Benthic ecology; • Shipping and navigation; and

• Fish and shellfish ecology; • Other sea users.

This should include archaeology and historic environment assets, and landscape and seascape. Also include these topics in Table 2-5 EIA Scoping Assessment for Physical Processes.

2.1.9.1 Analysis and Assessment Approaches

Cable landfall, laying, protection and transition joints bay works should be assessed to addressed significant effects on coastal processes. Significant adverse effects on coastal infrastructure, culture/historic assets, coastal/marine habitats, species and geomorphological features, including due to, but not limited to, erosion, sediment transport, accretion, scouring and/or coastal flooding, should be avoided, minimised and/or appropriately mitigated.

The proposed development should not increase risks from coastal erosion, flooding and/or wider coastal change.

2.2.4.2.4 Designated Shellfish Waters and Shellfish Water Protected Area

The EIA baseline should acknowledge the Shellfish Water Protected Area in the Bay of Firth.

Table 2-10 Summary and Key Issues for Water and Sediment Quality

Should acknowledge potential water quality impacts that could affect fish farms in Scapa Flow and potential for cumulative impacts of the proposed development when considered with existing fish farm development.

2.2.6 Scoping of Impacts

Should acknowledge potential water quality impacts that could affect fish farms in Scapa Flow.

2.2.7 Potential Cumulative Effects

Consider potential for cumulative water quality/sediment/benthic impacts of the proposed cable route development with existing fish farm development.

Table 2.14

Further sources of data that could be used to inform the EIAR in relation to biodiversity impacts, especially benthic impacts, include:

- Engaging the Fishing Industry in Marine Environmental Survey and Monitoring Scottish Marine and Freshwater Science Vol 12 No 3 Engaging the Fishing Industry in Marine Environmental Survey and Monitoring - Engaging the Fishing Industry in Marine Environmental Survey and Monitoring | Marine Scotland Data Publications
- Biological analyses of seabed imagery from within and around Marine Protected Areas in Orkney, Shetland, Inner Sound, and Islay and Jura in 2019

Scottish Marine and Freshwater Science Vol 12 No 2 Biological analyses of seabed imagery from within and around Marine Protected Areas in Orkney, Shetland, Inner Sound, and Islay and Jura in 2019 - Biological analyses of seabed imagery from within and around Marine Protected Areas in Orkney, Shetland, Inner Sound, and Islay and Jura in 2019 | Marine Scotland Data Publications

Table 2.15

Whilst Table 2.15 acknowledges that there are Flame shell (*Lamaria hians*) beds in Scapa Flow, there is no further detail provided. As these beds are among the most important biogenic habitats in the UK, the EIAR should assess the likely impacts on this species, as well as the other PMFs found, particularly along the proposed cable corridors off the east coast of Hoy. Most of the PMFs in the proposed area are particularly sensitive to smothering and/or disturbance. NatureScot GeMS database or NMPi provides useful data on the distribution of the PMFs. In addition, it is recommended that the developers contact the International Centre for Island Technology (ICIT), Stromness, as they hold a variety of data, including species and Blue Carbon assessments.

As the current draft National Planning Framework 4 is likely to be published during the progress of this proposed offshore wind farm development, opportunities should be explored as to how the proposal will contribute to the conservation and enhancement of biodiversity (draft NPF4L Policy 3: Nature Crisis)

Table 2.16 Summary and Key Issues for Benthic Subtidal and Intertidal Ecology

The EIAR should address the potential impacts on the PMFs listed, as well as Flame Shell beds and potential EMF impacts. The potential impacts on sandeel should be linked to potential impacts on ornithology.

Table 2.34 EIA Scoping Assessment for Offshore Ornithology

The EIAR should ensure that impacts on benthic species that form a key food supply for key bird species (including those that are qualifying features of the SPAs) should be included; it is acknowledged that reference is made to use of benthic and fish population data.

2.3.7 Potential Cumulative Effects

Consider potential for cumulative impacts of the proposed development with existing fish farm development on subtidal benthic ecology.

2.3.9.1 Analysis and Assessment Approaches

Include OIC (delegate) as a consultee.

2.4.7 Potential Cumulative Effects

Consider potential for cumulative impacts of the proposed development with existing fish farm development on Fish and Shellfish Ecology.

2.4.9.1 Analysis and Assessment Approaches

Include Orkney Sustainable Fisheries (IFG equivalent) as a consultee to inform the fish and shellfish ecology impact assessment.

2.5.4.2 Scapa Flow (Offshore Ornithology)

NatureScot has commissioned digital aerial surveys of the Scapa Flow and North Orkney SPAs for the winter of 2021/22 and 2022/23. Vantage point surveys have also been commissioned as part of this survey work.

Table 2-34 EIA Scoping Assessment for Offshore Ornithology

Include assessment of impacts on benthic foraging habitats for pSPA bird features.

2.5 Offshore Ornithology – data source

Short-Term Behavioural Responses of Wintering Waterbirds to Marine Activity Quantifying the Sensitivity of Waterbird Species during the Non-Breeding Season to Marine Activities in Orkney and the Western Isles (Scottish Marine and Freshwater Science Vol 9 No 7)

Table 2-45 EIA Scoping Assessment for Commercial Fisheries

The proposed development should 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 the displacement, including impacts on fish stocks, the wider environment, the use of fuel by fishing vessels and the associated socio-economic costs to fishers and their communities.

• safe access to marine space including the seabed, water column and sea surface, and navigational access to and from landfall areas, e.g. ports, harbours or slipways, that support fishing vessels.

• on the economic, and where appropriate, cultural importance of fishing, in particular to fragile island communities.

Orkney Sustainable Fisheries, Orkney Fisheries Association and fishers that use an area that could be affected by a proposed development and associated activities should be consulted at an early stage.

Table 2-40 EIA Scoping Assessment for Marine Mammals and Megafauna

Table 2.40 scopes out the risk associated with electromagnetic field (EMF) emissions with regard to impacts on elasmobranchs, but given the concentrations of PMFs in Scapa Flow, consideration should be given to potential changes in species composition/impacts along the corridor route. Section 2.4.4.3, Table 2.22 does include consideration of potential EMF interactions; the EIAR should include these potential impacts on Flapper Skate.

2.8.9 Approach to Analysis and Assessment

Orkney Harbour Authority should be identified at the Statutory Harbour Authority for Scapa Flow.

Table 2-53 Summary of Key Datasets and Reports

Include Orkney Islands Marine Region: State of the Environment Assessment 2020

Table 2-61 Legislation and Guidance for the Marine Historic Environment

Include Orkney Local Development Plan

Table 2-67 Summary of Key Datasets and Reports

Include Orkney Islands Marine Region: State of the Environment Assessment 2020

2.11.4 Baseline Environment

Acknowledge and assess impacts on the setting of historic environment assets, particularly the components/setting of the World Heritage Site and coastal scheduled monuments. Make linkage here with Archaeology and Cultural Heritage section of the EIAR.

Table 2-68 Proposed Representative Viewpoints

Should include the following additional viewpoints:

- Sneuk Head (Hoy Area of Wild Land)
- Rackwick Beach
- Warebeth Beach
- Blackcraig
- Yesnaby
- MV Hamnavoe – Closest point on ferry route when MV Hamnavoe transiting Stromness to Scrabster.

Visual impacts on core paths should be considered as key receptors.

Table 2-73 Summary of Key Datasets and Reports

Include:

- Orkney Harbours Masterplan – Phase 1 https://www.orkneyharbours.com/documents/orkney-harbours-masterplan-phase-1
- Scotland's Aquaculture | Home
- Clyde Cruising Club Sailing Directions and Anchorages: Orkney and Shetland Islands including North and Northeast Scotland: https://www.clyde.org/publications/
- The Kingfisher Information Service – Offshore Renewable and Cable Awareness (KIS-ORCA) http://www.kis-orca.eu/

Section 2.12.4.1.4 Aquaculture

For clarity, the restriction on new aquaculture development only applies to fin fish farming; growth of shellfish farming is currently not restricted on the North and East coasts.

2.12.4.2.2 Subsea Cables and Utilities

The British Telecommunications plc (BT) - R100 Fibre Optic Telecommunication Cable Project is scheduled to install sixteen submarine cables to extend superfast broadband (30Mbps+) coverage across Shetland, Orkney, and Inner Hebrides. Cables are scheduled to be installed from Crockness (Hoy) to Flotta and Flotta to South Ronaldsay in 2020. Marine licence details here:

https://marine.gov.scot/ml/marine-licence-cable-installation-hoy-flotta-00009535

https://marine.gov.scot/ml/marine-licence-cable-installation-flotta-south-ronaldsay-00009538

Section 2.12.4.2.4

The Head of Bank, Orphir site for harvesting common mussel, mentioned in Section 2.12.4.2.4 is an inactive and/or deregistered site.

General comment - The Offshore Area – Other Sea Users

Should include ferry services. Ferry terminals are address in the land use section of the Scoping Report and the navigational aspects of ferry routes/services are addressed under shipping and navigation. It is appropriate for the Other Sea Users section of the EIA to consider impacts on ferry services and the associated communities.

The Orkney Harbour Authority should be consulted to determine whether there are any wider Harbour Area operational issues to be considered over and above STS and the Flotta Oil Terminal in Scapa Flow.

2.12.9 Approach to Analysis and Assessment

Include Orkney Harbour Authority as a consultee.

2.14 Socio-economics

The joint consideration of onshore and offshore socio-economic impacts is supported. The completion of the socio-economic baseline on a regional basis should not mean a high-level assessment that does not provide an in depth understanding of the local context. The socio-economic assessment should provide a detailed baseline of the Orkney economy, including engagement with local stakeholders, businesses and communities to inform the baseline and impact assessment.

2.14.3 Data Sources to Inform the EIA Baseline Characterisation

Table 2-83 Summary of Key Datasets and Reports should include:

- Orkney Economic Review 2017, https://www.orkney.gov.uk/Files/Business-and-Trade/Economic_Review/Economic_Review_2017.pdf
- Orkney Economic Review 2018, https://www.orkney.gov.uk/Files/Business-and-Trade/Economic_Review/Economic_Review_2018.pdf
- 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.

2.14.4 Baseline Environment

The key features of the regional study area economy which are likely to require consideration within the EIA should include an in-depth appraisal of the local supply chain in Orkney, including engagement with local businesses.

2.14.4.6 Tourism Overview

The tourism expenditure figures overly screw importance of tourism in THC area compared to Orkney. These figures have been compiled using different methodologies.

Table 2-87 Summary and Key Issues for Socio-economics

In advance of a more detailed assessment of the local workforce and supply chain, it is considered premature to reach the interim conclusion that a higher than usual proportion of the temporary construction phase workforce may need to be brought into the local area to work on the Project. There is a need for a skills audit and training provision assessment to upskill the local workforce, where appropriate, and maximise local economic benefits. The project could also support capacity building within the local supply chain to meet targets for local supply chain utilisation.

Table 2-87, states that tourism is confirmed to be an important industry locally, especially in the THC area. It should be acknowledged that tourism is an important sector in Orkney.

2.14.5 Embedded Mitigation Considered Within the EIA

This section states that *'It is expected that the most significant impacts on socio-economics receptors – such as direct jobs and GVA created directly by the Project, and indirectly through supply chain stimulus – would be positive in their nature. These impacts would therefore not require mitigation'.* The indirect effects of job creation on local housing, services, infrastructure etc in Orkney may require mitigation. Workforce displacement effects on existing sectors may require mitigation. Training and upskilling to reach targets for local economic benefit could be key mitigation.

The Project has already stated publicly that they are committed to achieving 40% of content within Scotland, and 60% within the UK. The socio-economic assessment should be informed by targets for local economic benefits to host communities including Orkney. Mitigation should be put in place to meet these local economic benefit targets.

Table 2-88 EIA Scoping Assessment for Socio-economics

Identified impacts should include:

- Direct employment impacts
- 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.

Impact on demand for housing and local services could also occur from the project operational phase in addition to the construction and decommissioning phases.

2.14.9.1 Analysis and Assessment Approaches

In addition, consultation should be undertaken with:

- HIE
- Orkney College UHI
- Heriot Watt Orkney Campus,
- Aspire Orkney

The economic impact model proposed to enable an assessment of local, regional, Scotland, UK, outside of UK economic effects should include the consideration of displacement effects. The

model should also consider capital investment in wider infrastructure directly related to the project e.g. harbours.

Table 4-32 Summary of Key Datasets and Reports

Include Orkney Core Paths Plan https://www.orkney.gov.uk/Service-Directory/C/Core-Paths.htm

4.5.4 Baseline Environment

The key features of land-use should include land managed for nature conservation e.g. land managed by RSPB.

4.5.4.1.2 Trees and Woodland

The Scoping Report states that Orkney is renowned for being treeless as a result of human interaction and Stone Age community expansion. The fragments of native woodland and plantation woodland in North Hoy should be acknowledged and impact assessed in the EIAR.

4.5.4.1.3 Tourism and Recreation

The Core Path network is tourism and recreation infrastructure that should be considered and assessed. See comments on section 4.9 Traffic and Access.

The Hoy RSPB Nature Reserve needs to be considered and assessed as a tourism resource. https://www.rspb.org.uk/reserves-and-events/reserves-a-z/hoy/

4.5.4.2.3 Tourism and Recreation

Wea Fea, Scad Head and Rinnigal have world war historic assets that should be considered and assessed as part of the world war heritage tourism resource.

Crockness Martello Tower should be considered and assessed as part of Hoy's tourism heritage resource.

4.5.4.3.4 Infrastructure

There is a water pipeline running from Crockness to Flotta providing potable water.

Table 4-33 Summary and Key Issues for Land-use and Other Users

The Table states North Hoy is not covered by any woodland with limited ability for woodland / forestry. The fragments of native woodland and plantation woodland in North Hoy should be acknowledged and impact assessed in the EIAR.

Include assessment of impacts on the Core Path network and any rights of way for all areas.

Include assessment of impacts on potable water pipeline to Flotta.

Table 4-35 EIA Scoping Assessment for Land-use and Other Users

Scope in assessment of impacts on the Core Path network and any rights of way for all areas and development phases.

4.5.8.1 Analysis and Assessment Approaches

Include consultation with the Hoy Development Trust.

Table 4-36 Legislation and Guidance for Land-use and Other Users

Include Orkney Core Paths Plan https://www.orkney.gov.uk/Service-Directory/C/Core-Paths.htm

4.6 Terrestrial Archaeology and Cultural Heritage

Refer to comment from OIC County Archaeologists provided to OIC Development Management.

4.9 Traffic and Access

The Scoping Report has not shown how the EIAR will address outdoor access under Part One of the Land Reform (Scotland) Act 2003 both in terms of core paths and general rights of public access. Impacts on statutory core paths and access rights should be scoped into the EIA. The applicant should be aware that there may be public rights of way affected by the development proposed. EIA should consider fully how the development will affect these rights along with proposals on how such affects will be mitigated. The Project should consider and comply with the statutory requirements for the closure and/or diversion of core paths and rights of way under Section 11 of the Land Reform (Scotland) Act 2003 and Section 35 of the Countryside (Scotland) Act 1967.

The Orkney Core Paths Plan can be viewed at: https://oic.maps.arcgis.com/apps/MapSeries/index.html?appid=462f21e42d74428984b868be3a8c57c2 .

The Council's Rural Planner would be pleased to provide information and guidance to the applicant as required.

4.10 Landscape and Visual

4.10.4 Baseline Environment - Acknowledge and assess impacts on the setting of historic environment assets, particularly the components/setting of the World Heritage Site and coastal scheduled monuments. Linkage with Archaeology and Cultural Heritage section of the EIAR.

Table 4-66 Summary and Key Issues for Landscape Character and Visual Amenity – Core paths a key visual receptors.

4.10.4.4 Summary and Key Issues

It is noted that viewpoints from key locations to represent landscape/visual receptors will be identified through the site/route selection process and production of ZTV plans with the final viewpoints for assessment to be agreed with consultees. OIC requests to be consulted on the identification of viewpoints.

Orkney Marine Mammal Research Initiative

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2nd May 2022

Dear Ms Ross

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE WEST OF ORKNEY OFFSHORE WINDFARM LOCATED 23 KILOMETRES NORTH OF THE CAITHNESS COAST AND 28KM WEST OF HOY, ORKNEY COAST

We have reviewed the scoping report and offer the following comments:

Do you agree with the study area for marine mammals and other megafauna?

We broadly agree with the study area but would recommend two modifications:

1 Extend the study area boundary to 6km around the OAA (rather than 4km). This would aid understanding of species use within the range likely to cause a temporary threshold shift in harbour porpoise hearing (although it is noted that this threshold varies by species). https://elib.tiho-hannover.de/servlets/MCRFileNodeServlet/tiho_derivate_00000604/Schaffelds-ss20.pdf

2 Extend the northern 'arm' of the Orkney cable corridor (diagram at end of comments). Whilst the cable would not be laid within this extended area, the water north of Graemsay would see increased vessel traffic during the installation of infrastructure, whilst the area to the south of Graemsay would then encompass the NE Hoy seal haul-out.

Do you agree that data sources identified (Table 2-37) are sufficient to inform the marine mammal and megafauna baseline section?

We believe that the SCANS (I, II and III) data, whilst providing a broadscale overview, is more limited in its usefulness at smaller scales, such as those being considered within this report. We therefore welcome the inclusion of fine-scale data for informing the baseline.

We do note that a number of the data sources cited could be considered out-of-date (although they are the most recent available) and may not provide the most reliable baseline. This is particularly true of harbour seals where abundance and presence is varying each year within the region.

More broadly, there is a general lack of verified historical data regarding the presence, distribution and abundance of cetaceans in Orkney waters – especially within the OAA. We therefore welcome the commencement of aerial surveys over the OAA to improve the level of data regarding presence and abundance. The comprehensiveness of this data would be improved by further incorporating the cable corridors, aiding the identification of appropriate mitigation measures.

Finally, we would note that an annual harbour porpoise aggregation is known to occur in the waters between Hoy, Fara and Flotta, peaking in October each year. The reasons for this aggregation are currently unknown and require further study in order to fully understand, in order that effective mitigation can be identified and implemented. Our understanding is that there is no data regarding this annual occurrence at present and we would recommend this data gap is filled prior to publication of the EIA.

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

Strandings data, such as that held by the Scottish Marine Animal Stranding Scheme, can provide current (and historical) additional information regarding seasonality and species presence. This is of particular relevance to cetaceans, with climate change seeing species' range extending northwards.

Do you agree with the suggested embedded mitigation measures and is this mitigation appropriate?

Yes, although we note that the lack of specific details at this stage makes it difficult to comment. For example, the piling strategy (Table 2-39, ref 2) gives examples of soft-start and ramp-up as mitigation but it is unclear as to which other mitigations, such as bubble curtains, will be included in this strategy.

As a general point of note, we feel strongly that the west of Orkney windfarm should lead the way in upholding the highest standards in terms of sustainable development. We would therefore seek that the EIA identify and recommend appropriate current best practice in terms of mitigation – not simply the minimum required by law. This includes consideration of research undertaken outwith UK waters.

We would also note that identified mitigations should include measures to avoid impact as an initial starting point (for example, avoiding proximity to seal haul outs for cable landing) as well as including recommendations for ecological enhancements and funding for local NGOs that undertake marine biodiversity work within Orkney waters.

Do you agree all potential impacts have been identified for marine mammal and megafauna receptors?

The impact of primary and secondary entanglement should be considered for all floating inter-array cables and mooring lines/anchors (not just floating WTGs as mentioned in table 2-40).

The associated impact of increased water turbidity during operation should also be considered, as there is evidence to suggest that increased vertical mixing increases phytoplankton production through the water column to a greater depth.

For the impacts which are scoped in, do you agree the methods described are sufficient to inform a robust impact assessment?

For the included impacts, the methods described are sufficient to inform the impact assessment if sufficiently detailed and comprehensive.

Whilst the risk of entanglement is considered low, we would suggest development of a computer model simulation to assess primary and secondary entanglement risks in order to more accurately quantify the risk and aid mitigation identification. Such a product would likely have commercial viability beyond the scope of this project.

Do you agree with the reasoning behind scoping out impacts highlighted as such in Table 2-40?

We generally agree with the reasoning behind scoping out specific impacts. The only exception to this is 'noise related impacts during operation'. The potential impact of this type of noise should be quantified and assessed, specifically with reference to common minke whale and other baleen species. Habitat models of species distribution and peer-reviewed literature should inform the assessment.

Do you agree with the approach for the cumulative effects assessment and for transboundary effects?

Yes.

Additional comments:

With regards to our area of knowledge, the general comments and procedures outlined in the Scoping Report are largely welcomed as both thorough and considered. We look forward to the data from the marine mammal survey programme being made publicly available in due course.

Specifically, we would note that our own organisation is planning to survey and study the harbour porpoise aggregation off Flotta, once funding has been secured.

As a general principle, we believe that sustainable development requires local voices to be heard and respected. We therefore welcome the inclusion of OMMRI as a key consultee for the marine mammals and megafauna impact assessment, as well as the inclusion of other locally based specialist organisations for other elements of the EIA.

We would be happy to discuss or expand upon any of the comments above if this would be helpful.

Kind regards.

[redacted]

Imogen Sawyer, Trustee

on behalf of Orkney Marine Mammal Research Initiative

Proposed extension to the northern arm of the Orkney survey area

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19th April 2022

Jane Renwick
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Dear Ms Renwick,

MS/22/01 - SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm, Scoping request

I have read the relevant parts of the scoping report on behalf of RYA Scotland.

Section 2.8, Shipping and Navigation.

Do you agree with the proposed study area (incorporating a 10 NM buffer around the array area)? RYA Scotland has no objection to the proposed study area but considers it would be better for the buffer zone to go from Cape Wrath to Sule Skerry, to a point 5 nM of the northernmost point of the options area, to Bay of Skaill, to Dunnet Head following the coast of Hoy before following the coast back to Cape Wrath. This new area would include the EMEC Billia Croo site, the Sutherland Space Hub and the MoD Cape Wrath Range, all of which should be considered in terms of potential in-combination effects.

• *Do you agree with the proposed approach to survey data collection?* I agree with the proposed collection of data on recreational boats but consider that there are already sufficient data on the routes taken by recreational craft in these waters. Note that Orkney islands Council on behalf of the Orkney Marine Planning Partnership is currently carrying out a survey of the use of the Orkney waters for recreation (mentioned in section 2.12). Note also that the location of recreational anchorages in Scapa Flow are shown in the OIC Supplementary Guidance for aquaculture and are held by the Orkney Marine Planning Partnership.

• *Do you agree the embedded mitigation is appropriate, or are there other measures that should be included?* I agree with the list of embedded mitigations, some of which are in any case legal requirements.

• *Do you agree with the list of scoped impacts?* Yes.

• *Are there any additional shipping and navigation organisations that you would recommend be consulted?* Local ports and harbours are mentioned. For Orkney the contacts should be the Orkney Islands Council Harbour Authority, Orkney Marinas and the Orkney Marine Planning Partnership. Sail Scotland should also be added to the list as the organisation promoting recreational boat cruising. There are several mentions of possible impacts on passengers on cruise vessels so it would also be appropriate to consult the industry body, Cruise Scotland.

• *Do you agree with the proposed assessment approach*. The approach follows best practice. In relation to the cable landfall routes, the potential impact during construction will be much higher if a route through Hoy Sound is chosen due to the amount of traffic and the importance of correct timing to avoid adverse tidal flows and the EIA and NRA will need to be structured to make that clear.

Section 2.12 Other sea users
For recreational boating there is considerable overlap between this section and section 2.8. I recommend that text relating to recreational boating is amalgamated with the relevant parts of section 2.8 to avoid duplication. Note that while recreational boating intensity is greatest in the summer there can be activity all year round in favourable weather windows (2.12.4.2.6). Note also that the responses below only apply to recreational boating.

• *Do you agree with the study areas defined?* See the answer to section 2.8.

• *Do you agree that the existing data available to describe the infrastructure and other users baseline remains sufficient?* Yes.

• *Are there any additional data sources or guidance documents that should be considered?* I am unaware of any.

• *Do you agree with the suggested embedded mitigation measures and is this mitigation appropriate?* Yes.

• *Do you agree with the potential impacts to be scoped out of the Project assessment?* Yes.

• *Do you agree with scoping out transboundary impacts?* Yes.

• *Are there any other key stakeholders or stakeholder organisations that should be consulted?* See the answer to section 2.8.

• *Do you agree with the proposed approach assessment?* Yes, but see the answer to section 2.8.

Section 2.14 Socio-economics
No comments.

I trust that these comments will be found helpful and confirm our readiness to engage further with this project.

Yours sincerely,

Dr G. Russell FRMetS MCIEEM

Planning and Environment Officer, RYA Scotland

RSPB Scotland

giving nature a home
Scotland

Ms Jane Renwick, MS-LOT
By email

cc. Mr Jamie Macvie, Orkney Islands Council
Mr Simon Hindson, Highland Council

16 May 2022

Dear Ms Renwick,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE WEST OF ORKNEY OFFSHORE WINDFARM LOCATED 23 KILOMETRES NORTH OF THE CAITHNESS COAST AND 28KM WEST OF HOY, ORKNEY COAST

Thank you for consulting RSPB Scotland on the Environmental Impact Assessments (EIA) scoping opinion for the West of Orkney Windfarm. We welcome engagement with the applicant at an early stage to discuss any of the issues raised in this letter.

We are pleased to see the developer is considering the environmental impacts at this early stage. The potential area of the development, both on land and in the sea is however very large, and there are many possibly combinations in terms of array location, technology parameters, cabling solutions and landfall sites. The array could for example be located 2km from Sule Stack and Sule Skerry SPA, or much further away. In addition, no initial survey data has been provided. These factors make it very difficult for us to specific characteristics of the proposed development and their likely impact upon the environment. As such it is difficult to help refine the scope of the Environmental Report – we can only provide general information on the methods and parameters to be used.

Once adopted, a scoping opinion is binding; the information specified in the scoping opinion must be included within the Environmental Statement. Should the developer consider elements included within the scoping option are no longer required as the project has evolved, we recommend justification of this within their Environmental Statement. We are hesitant to agree to follow up meetings without clear information on the purpose and expected outcome of these meetings. We do believe it is appropriate to re-scope the project through such meetings.

The HRA process, including screening for Likely Significant Effects (LSE), Appropriate Assessment and Derogation, is set out within Section 1.4.7 “Habitats Regulations Appraisal” of the Scoping Opinion. For the avoidance of doubt, at the present time with the information available, we considered the proposed development would have a likely significant effect to European Sites in the absence of mitigation measures. An Appropriate Assessment of the proposed project’s implications for the site in view of the effect site(s)’s conservation objectives will therefore be required. We are happy to provide comments on an LSE screening report.

Our comments below predominantly relate to offshore ornithology in the proposed windfarm array area and cable search area across Scapa Flow SPA. Our comments relating to the onshore elements have submitted separately to Orkney Island Council and Highland Council.

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

Tel: 0131 317 4100
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Summary of the development

We understand the proposal subject to this EIA scoping is for a 50-year consent for an offshore windfarm with maximum generating capacity of 2GW. It would comprise construction, operation, maintenance, and decommissioning of:

- Up to 125 wind turbine generators (max hub height 200 meters, max rotor diameter, 330 meters, minimum lower blade tip clearance 22 meters) with either fixed and/or floating foundations located approximately 23 km from the north Caithness coast and 28 km from the west coast of Orkney in the Sectoral Marine Plan option agreement area 'N1';
- Up to 5 offshore substation platforms (up to 26 meters above MSL) within the above-described area;
- Up to 750 km of inter-array cables (up to 132 kV) with cable protection/burial within the above-described area;
- Up to 5 offshore export cables connecting the array area to the Caithness landfall(s) (up to 600kV) with cable protection/burial;
- Up to 5 offshore export cables connecting the array area to the Flotta landfall(s) crossing both the offshore area west of Orkney and Scapa Flow (via onshore routes across Hoy and potentially Fara) (up to 600kV) with cable protection/burial; and
- Up to 2 new onshore substations, including one at Spittal (Caithness) and/or one at Flotta (Orkney).

Scoping Opinion Comments

We have provided answers to the questions listed in section 2.5.10 "Scoping Questions" (p. 192) of Scoping Report.

General Questions

1) *Do you agree that the data sources identified are sufficient to characterise the offshore ornithology baseline in the Offshore EIA?*

    i) We are broadly satisfied with the data sources identified to ascertain the offshore ornithology baseline in the turbine array area. Due to its age, we support the use data collected to support Dounreay Tri for wider context only. We are pleased to see the cumulative impacts with the Space Hub Sutherland have been scoped in.
    ii) We do not agree that the statement in Table 2.28 re puffin tracking as a pers comms from Francis Daunt as it is contrary to the position that he has discussed with us in our role in FTRAG. We therefore request sight of this pers comms. This section also omits the RSPB puffin tracking carried out by Ellie Owen
    iii) We caution against potential over-use and over interpretation of tracking data due to the small number of birds tagged. Tracking data is extremely useful in indicating foraging ranges and the area birds from colonies are known to visit. However, it should not be used to determine where birds from a colony do not visit.
    iv) Related to the above, and of relevance for the HRA, we welcome the use of foraging ranges to derive connectivity with SPA colonies. We would recommend that site-specific data alongside that published in Woodward et al. (2019)[1] are examined and where the maximum foraging range

[1] Woodward, I., Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO Research Report No. 724, British Trust for Ornithology, Thetford. ISBN 978-1-912642-12-0.

from the colony exceeds the Woodward et al value, the site-specific value is used. The exceptions to this are for common guillemot and razorbill. Tracking on Fair Isle showed foraging for both common guillemot and razorbill distances are greater than those of all other colonies. This may relate to poor prey availability during the study. However, trends for seabirds in the Northern Isles indicate this may be becoming a more frequent occurrence. For all designated sites south of the Pentland Firth (i.e., excluding the Northern Isles), we advise use of mean max +1SD discounting Fair Isle values.

	All Northern Isle SPAs	**All sites south of Pentland Firth**
Common guillemot	153.7 mm +SD	95.2 mm +SD
Razorbill	164.6 mm +SD	122.2 mm +SD

2) Do you agree that all potential impacts have been identified for offshore ornithology receptors?

i) As required by the EIA Regulations, as well as the individual impacts, the cumulative impacts of other existing and/or approved development should also be considered. We consider this includes onshore windfarm developments on Orkney, several which are predicted to have impacts to red-throated diver.

ii) We are concerned that limited information has been provided in relation to the inshore ornithology baseline (i.e., the cabling corridor across Scapa Flow). This was excluded from the terrestrial ornithology sections. The cumulative impacts of disturbance from developments to the inshore waters, including that from aquaculture and quay/harbour expansions, should not be overlooked.

iii) The secondary and cumulative impact (to seabirds) from disturbance to sandeel and other forage fish supporting habitats from the turbines and/or cabling should be scoped in. We suggest this take the form of a qualitative assessment using the results of the work to understand the suitability of the seabed habitat for sandeel and herring spawning (see section 2.3.4.1 of the Scoping Report) and ecosystem level effects, such as changes in stratification downstream of turbines

iv) The scoping opinion indicates that both fixed and floating foundations are being considered. It is our understanding that some types of the floating windfarms need to be towed into position rather than being erected is-situ. We are also unsure whether any ongoing maintenance would be done insitu or require the turbines to be taken to a wet-storage area for repair. Ornithological impacts associated within these elements should be scoped in.

3) Do you agree that relevant species have been scoped in?

i) No Digital Aerial Surveys (DAS) data has been provided. <u>All</u> species identified in the DAS and <u>all</u> qualifying species of the SPAs in foraging range should therefore be scoped in.

ii) When considering cabling across the Scapa Flow SPA, impacts to all the qualifying species should be scoped in.

iii) Notwithstanding the above comments, we agree that the key species for the turbine array area are likely to include Kittiwake, Guillemot, Razorbill, Puffin and Gannet. Given the proximity of Sule Stack and Sule Skerry SPA, and the large number of unknowns in terms of behaviour, in particular flight behaviour and disorientation in the vicinity of lights, we consider both Storm Petrel and Leach's Petrel will also be key species of interest.

4) *For those impacts scoped in, do you agree that the methods described are sufficient to inform a robust impact assessment?*

   i) We are broadly satisfied with the DAS method set out in 2.4.3.11 and site-specific survey information in 2.6.3.1. Images across 21 parallel transects 2km apart are being collected across the windfarm array project area plus a 4km buffer. This is using digital video techniques and the methods employed by HiDef. We note the surveys commenced in July 2020 and 17 have been completed at the time of scoping. DAS should cover a 24 months period and include two full breeding seasons. We therefore recommend data collection continues until the end of the breeding seasons in 2022.
   ii) Information on the timings of flights needs to be provided due to the potential for missing activity peaks out with survey times, particularly for crepuscular species.
   iii) Information on the proportion of the area being analysed does not appear to have been provided. We recommend comparing data from four cameras and two cameras for two-month period to capture variability and demonstrate data robustness.
   iv) We agree with the use of Density Surface Modelling (DMS) to predict the abundance of birds in flight and birds in the water using MRSea (Scott-Hayward et al. 2013). However clear details of all the modelling procedures carried out needs to be provided, including a comparison with design based density estimates and diagnostics in relation to model validation.

<u>*Collision risk modelling inputs*</u>

5) *Since no flight height data will be available from digital aerial surveys, is Option 2 and Option 3 using Johnston et al. (2014) only data an acceptable approach?*

   i) If no flight heights are available, the distributions presented in the Johnson et al. (2014)[2] (*corrigendum*) paper should be used.
   ii) We note that a minimum lower blade tip clearance of 22 metres is proposed. In section 1.3.4.1.1 of the Scoping Report, it is stated that 22 metres does not represent the minimum air gap and that the minimum air gap will be determined through specific ornithological collision risk modelling. A minimum air gap of more than 22 metres is welcomed as 22 meters is relatively close to the sea level and within potential collision height for many seabirds. Unfortunately, the lack of commitment to a larger airgap at this time means that collision risk impacts associated the 22 meter lower blade tip clearance cannot be ruled out and must therefore be scoped in.

6) *Are the flight speed data in Bowgen and Cook (2018) suitable to use for kittiwake and large gulls?*

   i) These can be presented but alongside current SNCB recommended default values. If these data are used, details as to whether "straight line speed" or "true speed" are used should be given, alongside a justification.

[2] Johnston, A., Cook, A., Wright, L., Humphreys, E. and Burton, N. (2014). Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. Journal of Applied Ecology. 51. 10.1111/1365-2664.12191.

7) Are the avoidance rates in Bowgen and Cook (2018) suitable to use for kittiwake and large gulls?

i) We do not endorse use of the avoidance rates in Bowgen and Cook (2018)[3] as they rely on data from just one site. We consider avoidance rates recommended by NatureScot for kittiwake and large gulls are more suitable.

ii) We note that for all other species it is proposed to use the avoidance rates recommended by NatureScot. We agree with the published avoidance rates within the "Joint Response from the Statutory Nature Conservation Bodies to the Marine Scotland Science Avoidance Rate Review 25th November 2014", except for gannet during the breeding season. For this species we advocate that the default avoidance rate of 98% should be used. This is because gannet change their flight behaviour during the breeding season (Lane et al., 2020)[4] which is likely to alter their avoidance behaviour. The review on which the SNCB based their guidance is almost entirely drawn from studies on non-breeding gannet (Cook et al., 2014)[5].

iii) For collision risk modelling, we recommend the use of the stochastic CRM shiny app developed by Marine Scotland Science, and that the full output reports are provided. We welcome further discussion on the model options used and parameterisation of them.

<u>Displacement and mortality rates:</u>

8) Are the proposed displacement and mortality rates acceptable for the EIA (Table 2-35)?

i) We suggest use of the displacement and mortality rates outlined in the table below.

	Displacement	Mortality – Breeding Season	Mortality – Non-Breeding Season
Razorbill	40-60%	3 -5%	1-3%
Guillemot	40-60%	3-5%	1- 3%
Puffin	30-60%	3 5%	1 -3%
Gannet	60-80%	1- 3%	1- 3%
Kittiwake	30%	1-%	1- 3%
Fulmar	10-30%	1-3%	1-3%

ii) We support the use of the method in the Joint SNCB Interim Displacement Advice Note[6] (updated January 2022) to estimate displacement mortality. However, we would also want to see SeaBORD included, where possible, in the displacement assessment.

[3] Bowgen, K. & Cook, A. (2018). Bird Collision Avoidance: Empirical evidence and impact assessments. JNCC Report No. 614, JNCC, Peterborough, ISSN 0963-8091

[4] Lane, J. V., Jeavons, R., Deakin, Z., Sherley, R. B., Pollock, C. J., Wanless, R. J., & Hamer, K. C. (2020). Vulnerability of northern gannets to offshore wind farms; seasonal and sex-specific collision risk and demographic consequences. Marine Environmental Research, 162, 105196

[5] Cook, A. S. C. P., Humphreys, E. M., Masden, E. A., & Burton, N. H. K. (2014). The avoidance rates of collision between birds and offshore turbines. Scottish Marine Freshwater Sci 5 (16): 247 pp. Edinburgh: Scottish government.

[6] https://data.jncc.gov.uk/data/9aecb87c-80c5-4cfb-9102-39f0228dcc9a/joint-sncb-interim-displacement-advice-note-2022.pdf

9) *What displacement and mortality rates should be used to assess impacts for gannet and Arctic tern?*

    i) Gannet are included in the table above. RSPB will need further discussion on the displacement and consequent mortality rates of Arctic tern

Monitoring results:

10) *Ornithology monitoring results from offshore wind farms in Scottish Waters have been completed (Vallejo et al. 2017), are underway or will be reposting results during the assessment period for this Project. How can the results of these monitoring studies be applied to the assessment of this Project?*

    i) We do not understand this question – all methods and advice are under constant review and incorporated into statutory advice

11) *Several sites have reported that gannet macro avoidance rates are almost 100% (e.g. Skov et al., 2018, MFRAG-O meeting minutes 9th July 2020, Rehfisch et al., 2014). Given that these results appear to be universal to date, the assessment of gannets being at risk from collision but not displacement appears to be incorrect. Should the impact assessment for gannet now be to consider displacement as the primary impact source?*

    i) The evidence of macro-avoidance of gannets is not as clear cut as this question implies, and only the Beatrice study (cited in the question as MFRAG-O) and Peschko *et al.,* (2021)[7] report during the breeding season. Both show different levels of macro-avoidance There is also preliminary evidence of habituation to the presence of wind farms and consequent lower macro-avoidance ((Vanerman *et al*., 2021[8])

12) *If so, what buffer should be used in the assessment?*

    i) see above

13) *Since the evidence suggests that Gannet macro-avoidance is nearly 100%, what displacement rate and mortality rate should be used in the impact assessment?*

    i) see above

Population Viability Analysis:

14) *Counterfactual metrics are recommended where there is misspecification of demographic parameters. If parameters are not mis-specified should other metrics be used?*

    i) Counterfactual metrics are not only recommended where there are where there is misspecification of demographic parameters but are considered the most robust PVA metrics for

[7] Peschko, V., Mendel, B., Mercker, M., Dierschke, J., & Garthe, S. (2021). Northern gannets (Morus bassanus) are strongly affected by operating offshore wind farms during the breeding season. *Journal of Environmental Management*, *279*, 111509.

[8] Vanermen, N.; Courtens, W.;.; Van de walle, M.; Verstraete, H.; Stienen, E. 2021. Macro-avoidance of GPS-tagged lesser black-backed gulls and potential habituation of auks and gannets. In Degraer, Brabant, Rumes & Vigin (eds) 2021. *Environmental Impacts of Offshore Wind Farms in the Belgian Part of the North Sea, avoidance and habitat use at various spatial scales.* Brussels: Royal Belgian Institute of Natural Sciences, OD Natural Environment, Marine Ecology and Management

the assessment of offshore wind farms[9]. As such, we advise the two metrics 'Counterfactual of final population size' and 'Counterfactual of population growth-rate' should be presented

ii) Where apportioned impacts are large and / or the SPA populations are small, it is likely that population models will be required to establish whether or not there could be long-term impacts on population viability.

iii) We recommend that the NE PVA shiny tool[10] is used to assess population scale impacts for both projects alone and in-combination assessments, where relevant.

15) Is a comparison of empirical and predicted growth rates sufficient for model validation?

i) Yes

16) Is model tuning an acceptable approach to population modelling where models do not validate well

i) Yes

We trust our advice is of use and should you wish to discuss of any of the above please do not hesitate to contact RSPB Scotland.

Yours sincerely,

Catherine Kelham

Senior Marine Conservation Planner,
RSPB Scotland

[9] Cook, A.S.C.P. & Robinson, R.A. (2016) Testing sensitivity of metrics of seabird population response to offshore wind farm effects, JNCC Report No. 553, JNCC, Peterborough, ISSN 0963-8091.

[10] Searle, K., Mobbs, D., Daunt, F. & Butler, A. 2019. A Population Viability Analysis Modelling Tool for Seabird Species. Natural England Commissioned Reports, Number 274.

Scottish Fishermen's Federation

From:	Malcolm Morrison
To:	MS Marine Renewables; jane.renwick@scot.gov
Cc:	England D (Debbie); Ross R (Rebecca)
Subject:	RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 9th June 2022
Date:	27 May 2022 11:06:18

Jane,
The chapter on commercial fisheries accepts that data may be limited, but as in 2.7.3.1, if that is ground truthed with OFA, that should be covered.
Only other comment is, P242, table 2.44 is a list of H&S actions, not necessarily anything to do with fisheries mitigation.
Otherwise that chapter seems good

Best Regards, Malcolm

Fishery Policy Officer
Mob. [redacted]

Tel. +44 (0) 1224 646944
www.sff.co.uk

Please be aware that as I am working from home, there may be occasions where I will send emails outwith the 9-5, that is to suit me, I don't expect replies at these times, only when you are working!

Connect with us:
Scottish Fishermens Federation| 24 Rubislaw Terrace | Aberdeen | Scotland | AB10 1XE

Connect with SFF:

From: MS.MarineRenewables@gov.scot <MS.MarineRenewables@gov.scot>
Sent: 26 May 2022 17:23
To: Malcolm Morrison <M.Morrison@sff.co.uk>; jane.renwick@scot.gov
Cc: Debbie.England@gov.scot; Rebecca.Ross@gov.scot
Subject: RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 9th June 2022

Good Afternoon,

Thank you very much for your response.

I note that you have responded to Chapter 2.4 in relation to Fish and Shellfish Ecology.

In relation to Section 2.7 Commercial Fisheries, I would be most grateful if you can confirm if you intend on providing comments on this section of the Scoping

Report?

Should you wish to respond, MS-LOT are able to accept comments submitted by Thursday 9th June. Please note that MS-LOT is unable to extend beyond this.

Kind Regards,

Jane

Jane Renwick
Marine Licensing and Consenting Casework Manager
Marine Scotland - Marine Planning & Policy

Scottish Government | Marine Scotland | 5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

Email: jane.renwick@gov.scot
Website: http://www.gov.scot/Topics/marine/Licensing/marine

I work Tuesday - Friday. 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.

COVID-19: Marine Scotland - Licensing Operations Team (LOT) is working from home and unable to respond to phone enquiries. Please communicate with LOT via email. Email addresses are MS.MarineRenewables@gov.scot for marine renewables correspondence or MS.MarineLicensing@gov.scot for all licensing queries.

From: Malcolm Morrison <M.Morrison@sff.co.uk>
Sent: 26 April 2022 16:02
To: MS Marine Renewables <MS.MarineRenewables@gov.scot>; jane.renwick@scot.gov
Cc: England D (Debbie) <Debbie.England@gov.scot>; Ross R (Rebecca) <Rebecca.Ross@gov.scot>
Subject: FW: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.

Afternoon,
The Scottish Fishermen's Federation (SFF) 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, are pleased to respond to this consultation.

At this stage the given export cable corridors for survey are huge, fishers knowledge of the actual seabed terrain must be accessed, in order to increase the chances of co-existence. In the

experience of the SFF this could help find the best route for burial, less rock dumping, less time and cost, if this is done before going to the Crown Estate Scotland with a final, unconsulted corridor.

Then in 2.4.10 our response would be yes to all questions.

Best Regards, Malcolm

Fishery Policy Officer
Mob. [redacted]

Tel. +44 (0) 1224 646944
www.sff.co.uk

Please be aware that as I am working from home, there may be occasions where I will send emails outwith the 9-5, that is to suit me, I don't expect replies at these times, only when you are working!

Connect with us:
Scottish Fishermens Federation| 24 Rubislaw Terrace | Aberdeen | Scotland | AB10 1XE

Connect with SFF:

From: MS.MarineRenewables@gov.scot <MS.MarineRenewables@gov.scot>
Sent: 01 April 2022 10:15
To: jane.renwick@scot.gov
Cc: Debbie.England@gov.scot; Rebecca.Ross@gov.scot
Subject: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.

Dear Sir/Madam,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE WEST OF ORKNEY OFFSHORE WINDFARM LOCATED 23 KILOMETRES NORTH OF THE CAITHNESS COAST AND 28KM WEST OF HOY, ORKNEY COAST

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

SCOP-0012 – Offshore Wind Power Ltd – The West of Orkney – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast

In respect of the proposed marine licence applications for the above works (under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009) and the section 36 consent application (under the Electricity Act 1989), Offshore Wind Power Ltd has requested the Scottish Ministers adopt a scoping opinion in relation to the above proposed works under the above Environmental Impact Assessment ("EIA") Regulations.

The scoping report submitted by the applicant can be found at: Scoping Opinion Request - Offshore Wind Power Ltd - West of Orkney Wind Farm | Marine Scotland Information

To assist the Scottish Ministers in adopting a comprehensive scoping opinion, which will outline the scope and level of detail of information to be provided in the EIA Report to be submitted by the applicant with its proposed section 36 consent and marine licence applications, please review the scoping report and advise on what you consider should be included within or excluded from the scope of the EIA for the proposed works. In doing so you may wish to consider any comments you may have regarding data sources, proposed methodologies or the requirement for specific studies.

Please submit your response electronically to ms.marinerenewables@gov.scot by Monday 2nd May 2022. If you are unable to meet this deadline, please contact us as soon as possible to discuss the possibility of an extension to the consultation period. If you have no comments to make please submit a "nil return" response.

Please be advised that this consultation request relates to the proposed section 36 consent and marine licence applications and not the onshore elements of the works.

Yours faithfully,

Jane

Jane Renwick
Marine Licensing and Consenting Casework Manager
Marine Scotland - Marine Planning & Policy

Scottish Government | Marine Scotland | 5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

Email: jane.renwick@gov.scot
Website: http://www.gov.scot/Topics/marine/Licensing/marine

I work Tuesday - Friday. 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.

COVID-19: Marine Scotland - Licensing Operations Team (LOT) is working from home and unable to respond to phone enquiries. Please communicate with LOT via email. Email addresses are MS.MarineRenewables@gov.scot for marine renewables correspondence or MS.MarineLicensing@gov.scot for all licensing queries.

****

SEPA

From:	Planning.North
To:	MS Marine Renewables
Subject:	RE: SCOP-0012 – The West of Orkney Wind Farm
Date:	11 April 2022 10:52:38

OFFICIAL

Thank you for your email consulting SEPA on the above EIA scoping. We confirm that SEPA have no comment to make on the offshore components of this application and will comment on the onshore components when we are formally consulted regarding either the Section 36 application or the planning applications for such.

Yours

Nicki Dunn
Senior Planning Officer
Scottish Environment Protection Agency | Law House | West of Scotland Science Park | Glasgow | G20 0XA
e: planning.north@sepa.org.uk

Stromness Community Council

From:	Stromness Community Council
To:	MS Marine Renewables; jane.renwick@scot.gov
Cc:	England D (Debbie); Ross R (Rebecca)
Subject:	Re: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.
Date:	22 April 2022 10:20:14

Stromness Community Council have no comment at this stage.

Kind regards
Sandra Craigie
Clerk to Stromness Community Council

The Highland Council

The Highland Council
Comhairle na Gàidhealtachd

Offshore Wind Power Limited
C/o Green Investment Group
Atria One, Level 7
144 Morrison Street
Edinburgh
EH3 8EX

Please ask for/Foighnich airson: Simon Hindson
Direct Dial/Àireamh fòn: 01463 785047
E-mail/Post-d: simon.hindson@highland.gov.uk

OurRef/Ur n-àireamh-iùil: 22/01589/SCOP
Your Ref/Ar n-àireamh-iùil:
Date/Ceann-là: 8 June 2022

By email only to:

Marine Scotland Renewables
Jack Farnham
Liz Foubister

Dear Sir/Madam,

West of Orkney Wind Farm - Erection and Operation of an Offshore Wind Farm comprising up to 125 wind turbines with a maximum blade tip height of 370m, up to 5 offshore substation platforms, up to 750km of of inter -array cables, up to 10 export cables including up to 5 cables making landfall in Caithness and ancillary infrastructure, AT Land 23KM NW Of Dounreay, Dounreay, ,

Thank you for consulting The Highland Council on the Scoping Request for the above development. Please accept my apologies for the delay in responding to you on this matter.

Please note that this response is for the offshore elements only and considers the matters which are within the remit of The Highland Council only.

A separate response has been provided to the applicant related to the onshore elements of the proposal only including the cable landfall, substation, cable route tracks and associated infrastructure. That scoping response was considered in the terms of the Town and Country Planning (Environmental Assessment) (Scotland) Regulations 2017.

Our view on the scope of the assessment may be subject to change on a number of topics within the EIAR if the scale of development, in terms of the location of proposed infrastructure within the development envelope.

This letter constitutes THC's response to the scoping request and supplements advice previously given to the applicant.

Please contact me using the details at the top of this letter if you have any further questions.

Yours faithfully

Simon Hindson
Planning Team Leader (Strategic Projects)

SCOPING RESPONSE

Applicant:	**Offshore Wind Power Limited**
Project:	**West of Orkney Wind Farm - Erection and Operation of an Offshore Wind Farm comprising up to 125 wind turbines with a maximum blade tip height of 370m, up to 5 offshore substation platforms, up to 750km of of inter -array cables, up to 10 export cables including up to 5 cables making landfall in Caithness and ancillary infrastructure**
Project Address:	**Land 23KM NW Of Dounreay, Dounreay, ,**
Our Reference	**22/001589/SCOP**

This response is given without prejudice to the Planning Authority's right to request additional information in connection with any statement, whether Environmental Impact Assessment Report (EIAR) or not, submitted in support of any future application. These views are also given without prejudice to the future consideration of and decision on any planning application received by The Highland Council (THC).

THC request that any EIAR submitted in support of an application for the above development take the comments highlighted below into account; many of which are already acknowledged within the Scoping Report. In particular, the elements of this report as highlighted in parts 3, 4 and 5 should be presented as three distinct elements.

For the avoidance of doubt, the EIAR must include the elements required by the EIA Regulations.

Responses to the internal consultation undertaken are attached. Should any further responses be received from internal consultees, these will be forwarded on in due course.

1.0 Description of the Development

1.1 The description of development for an EIAR is often much more than would be set out in any planning application. An EIAR must include:

- a description of the physical characteristics of the whole development and the full land-use requirements during the operational, construction and decommissioning phases. A plan with eight figure OS Grid co-ordinates for all main elements of the proposal should be supplied;
- a description of the main characteristics of the construction processes, for instance, nature and quantity of the materials used;
- the risk of accidents, having regard in particular to substances or technologies used;
- an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the development;

- cumulative impacts of the proposed development with any and all related projects (i.e. the onshore elements. For the avoidance of doubt this should include infrastructure associated with the Dounreay Tri and Pentland Offshore projects as well as the offshore elements of the Pentland offshore wind farm);
- the estimated cumulative impact of the project with other consented or operation development; and
- a detailed schedule of mitigation.

2.0 Alternatives

2.1 A statement is required which outlines the main development alternatives studied by the applicant and an indication of the main reasons for the final project choice. This is expected to highlight the following:

- locational criteria and economic parameters used in the location selection;
- design and locational options for all elements of the proposed development (inclusive of consideration of base types); and
- the environmental effects of the different options examined.

Such assessment should also highlight sustainable development attributes including for example assessment of carbon emissions / carbon savings and biodiversity net gain.

3.0 Environmental Elements Affected

3.1 The EIAR must provide a description of the aspects of the environment likely to be significantly affected by the development. The following paragraphs highlight some principal considerations. There are a number of onshore and offshore wind energy developments in the area and associated grid infrastructure projects and you are encouraged to use your understanding of these in assessing your development and the potential for cumulative effects to arise. The EIAR should fully utilise this understanding to ensure that information provided is relevant and robustly grounded.

Land Use and Policy

3.2 While this is an offshore wind farm, the EIAR should recognise the existing land uses affected by the development having particular regard for THC's Development Plan inclusive of all statutorily adopted Supplementary Guidance (SG). Particular attention should be paid to the provisions of the Onshore Wind Energy SG (OWESG) inclusive of any Landscape Sensitivity Appraisal. This is not instead of but in addition to the expectation of receiving a Planning Statement in support of the application itself which, in addition to exploring compliance with the Development Plan, should look at Scottish Planning Policy and Planning Advice Notes which identify the issues that should be taken into account when considering significant development. Further UK and Scottish energy policy should be considered and addressed. The purpose of this chapter is to highlight

relevant policies not to assess the compatibility of the proposal with policy.

3.3 It should note progress with **National Planning Framework 4 (NPF4)** and the Council's response to it. The Council responded to the draft NPF4 in 2022. The applicant should respond to this through the Planning Statement or respond to any updated NPF4 position as it relates to the application depending on the timescale for submission of the application. Similarly, the **Caithness and Sutherland Local Development Plan** forms part of the approved development plan. This sets confirms the boundaries of the Special Landscape Areas and identifies settlements in the area. Other statutorily adopted supplementary guidance, as set out on the Council website, will also require to be considered.

Sustainability

3.4 The Council's Sustainable Design Guide SG provides advice and guidance on a range of sustainability topics, including design, building materials and minimising environmental impacts of development. A Sustainable Design Statement is required. Wind farms produce a sustainable form of energy, however, the Council will need to be satisfied in reaching a conclusion on any application that the development in its entirety is in fact sustainable development. In order for us to do so we recommend that matters related to the three pillars of sustainable development are fully assessed in the information which supports the application. The developer needs to consider the impact of the of the developments onshore and offshore elements and the prospective long-term use of the energy to accommodate the requirements of a decarbonised energy provision for Scotland and the Highlands. The application should include a statement on how the development facilitates the provision of secure and clean electricity supplies in Highland.

3.5 The developer should also consider the potential for use of alternative fuels to be used in the construction of the proposed development. The Council also encourage the inclusion of electric car charging facilities within all new developments. A strategy for the provision of charging points within the development should be submitted with the application, albeit these would be located onshore.

Seascape, Landscape and Visual

3.6 The Council expects the EIAR to consider the seascape, landscape and visual impact of the development. The Council makes a distinction between the two. While not mutually exclusive, these elements require separate assessment and therefore presentation of visual material in different ways. It is the Council's position that it is not possible to use panoramic images for the purposes of visual impact assessment. The Council, while not precluding the use of panoramic images, require single frame images with different focal lengths taken with a 35mm format full frame sensor camera – not an 'equivalent.' The focal lengths required are 50mm and 75mm. The former gives an indication of field of view and the latter best represents the scale and distance in the seascape and landscape i.e. a more realistic impression of what we see from the viewpoint. These images should

form part of the EIAR and not be separate from it. Photomontages should follow the Council's Visualisation Standards:

https://www.highland.gov.uk/downloads/file/12880/visualisation_standards_for_wind_energy_developments

The following are minimum requirements for the printed copies

- For hard copies - Visuals should be presented in their own bound version of the document.
- The first image should clearly set out the location of the viewpoint and directions on how to get there (as per figure 2 of the Standards)
- The second page should include a photomontage presented at A3 with a 50mm field of view for landscape assessment (as per figure 6 of the Standards)
- The third page should include a baseline photograph at 50mm field of view and wirelines at the same scale as per Figure 7 or Figure 8 of the Standards)
- The fourth page should include a 50mm image photomontage (as per figure 10 of the Standards)
- The fifth page should include a 75mm image photomontage for assessment of visual impacts (as per figure 12 of the Standards)
- The document requires to be printed single sided with a high quality laser printer or equivalent on photo quality paper.

3.7 The use of monochrome for specific viewpoints is useful where there are a number of different wind farms (existing and proposed) in the view. We are happy to provide advice on this matter going forward. All existing and proposed turbines should be re-rendered even if they appear to be facing the viewer in the photograph to ensure consistency and to ensure the cumulative assessment can be considered on the worst case scenario.

3.8 This assessment should include the expected impact of the offshore substations and any temporary accommodation despite the fact that the wind turbines themselves will be of primary concern. All elements of a development are important to consider within any EIAR.

3.9 A study area of 60km has been proposed for the development. It is noted that the project would be below the horizon line at a distance of 68.7km. Given this study area covers most of the settled areas and some of the more prominent areas for recreation along the north coast, this is accepted. However, if the project changes in scale with larger turbines proposed, it may be appropriate to extend the study area. The assessment of seascape, landscape and visual impact should be completed in full across the entire study area. For the avoidance of doubt, THC do not consider it to be acceptable to screen out viewpoints for a full assessment based upon distance.

3.10 In terms of cumulative impacts, we encourage you to review the wind energy map on our

website which will provide an indication of other projects in the area which may require consideration:

http://highland.gov.uk/windmap

3.11 The finalised list of Viewpoints (VP) and wireframes for the assessment of effects of a proposed development must be agreed in advance of preparation of any visuals with THC. However at present we can advise that we would like to see additional viewpoints. This should include:

- A viewpoint on the A9 on the approach into Thurso;
- A viewpoint on A897;
- A viewpoint on the A836 between Altnaharra and Tounge;
- A viewpoint on the A838 on A'Moine peninsula;
- A viewpoint on the crossing between Scrabster and Stromness
- A viewpoint on the crossing between Gills Bay and St Margaret's Hope.

We would also like detailed route analysis for the A836 along the north coast. This should be supported by wirelines and appropriate photomontages.

3.12 We acknowledge that there will be some micrositing of the viewpoints to avoid intervening screening of vegetation boundary treatments etc. We would recommend that the photographer has in their mind whether the VP is representative or specific and also who the receptors are when they are taking the photos it would be helpful. We have also found that if the photographer has a 3D model on a laptop when they go out on site it helps the orientation of the photography.

3.13 The detailed location of viewpoints will be informed by site survey, mapping and predicted ZTVs. Failure to do this may result in abortive work, requests for additional visual material and delays in processing applications/consultation responses. Community Council's may request additional viewpoints and it would be recommended that any pre-application discussions with the local community, and associated reporting on consultation undertaken, take this into account.

3.14 The purpose of the selected and agreed viewpoints shall be clearly identified and stated in the EIAR. For example, it should be clear that the VP has been chosen for seascape assessment, landscape assessment, or visual impact assessment, or cumulative assessment, or sequential assessment, or to show a representative view or for assessment of impact on designated sites, communities or individual properties.

3.15 Further the SLVIA Chapter of the EIAR should clearly set out the methodology including:

- Definitions of each point on the scale of magnitude of change which is used by the applicant in reaching a conclusion on the magnitude of change;

- Definitions of each point on the scale of sensitivity of receptor which is used by the applicant in reaching a conclusion on the sensitivity of receptor;
- The threshold to which the applicant considers a significant effect is reached. For the avoidance of doubt the Council consider that Moderate impacts can be significant and it is recommended that the EIAR takes this approach as well;
- A clear matrix approach supported by descriptive text setting out how the applicant reaches their conclusion of effect on landscape character, designated landscapes, visual receptors and residential amenity.

3.16 When assessing the impact on tourist and recreational routes please ensure that all core paths, the national cycle network, long distance trails are assessed. It should be noted that these routes are used by a range of receptors. As outlined above a route assessment should be included to consider the impact of the development on users of the road network. This should be focussed on the A9, A99, B876, A836, A897, A838, and B870. This should be supported by wirelines, and viewpoint assessments should be provided from these routes in the main body of the LVIA.

3.17 The development will further extend the number of proposals of this type in the surrounding area, necessitating appropriate cumulative impact. It is considered that cumulative impact will be a significant material consideration in the final determination of any future application.

3.18 Given the potential cumulative impact of the proposal it is expected that the applicant should present images for presentation within the Panoramic Digital Viewer deployed by the Council – see visualisation standards document. To view current or determined schemes in the Council's Panoramic Viewer please see the link below: http://www.highland.gov.uk/panoramicviewer

3.19 We expect an assessment of the proposal against the criterion set out in the Council's OWESG to be included within the LVIA chapter of the EIAR.

3.20 In each o the viewpoints all infrastructure should be shown, both on and offshore, to ensure cumulative matters are assessed.

3.21 An assessment of the relevant landscape character and seascape character should eb undertaken. Further assessment of the proposal against the qualities of the Special Landscape Areas along the north coast and identified on Figure 2-45 should be included in the EIAR. While we would welcome an assessment of the impact on the National Scenic Areas and the Wild Land Areas identified on Figure 2-54 to help inform our assessment, we would be led by NatureScot's response on that matter.

3.22 We do not consider it appropriate to scope out the construction and decommissioning impacts completely and reference should be made to them in the EIAR. We consider it appropriate to scope in assessment of operational impact on users of recreational routes and core paths within the inland study area as some of these will have visibility of the

development.

3.23 It is considered that the guidance in the Onshore Wind Energy Supplementary Guidance and the Caithness Landscape Sensitivity Appraisal (both available on the Council website) should be used to inform the assessment. Further the recently published guidance from Marine Scotland and Energy Consents Unit on the use of design envelopes should be considered.

3.24 The consideration of the content of the Seascape, Landscape and Visual section of the EIAR has been focused on matters within the interest of Highland Council. It is anticipated that Orkney Isles Council will provide a response to matters within their interest.

Cultural Heritage

3.25 The EIAR needs to identify all designated sites which may be affected by the development either directly or indirectly. This will require you to identify:

- Submerged Paleolandscape Deposits, Archaeological Sites and Artefacts;
- the architectural heritage (Conservation Areas, Listed Buildings);
- the archaeological heritage (Scheduled Monuments, Historic Battlefields, offshore wrecks, vessels and structures);
- the landscape (including designations such as National Scenic Areas, Special Landscape Areas, Gardens and Designed Landscapes, and general setting of the development; and
- the inter-relationship between the above factors.

3.26 We would expect any assessment to contain a full appreciation of the setting of these historic environment assets and the likely impact on their settings. It would be helpful if, where the assessment finds that significant impacts are likely, appropriate visualisations such as photomontage and wireframe views of the development in relation to the sites and their settings could be provided. Visualisations illustrating views both from the asset towards the proposed development and views towards the asset with the development in the background would be helpful.

3.27 Historic Environment Scotland (HES) have responded to the consultation for heritage assets in their remit and the sites included in the assessment.

3.28 There are a large number of heritage assets in the vicinity of the development, these need to be assessed. Our Historic Environment Team should be consulted further on the impact on heritage assets outwith the remit of HES.

Noise

<u>Construction Noise</u>

3.29 Given the location, construction noise at is unlikely to be an issue at many noise sensitive

properties, however, consideration will need to be given to construction traffic and impact of the proposed construction methodology which is not clear at this time. This will include information on and assessments related to blasting and vibration as required.

3.30 Planning conditions are not used to control the impact of construction noise as similar powers are available to the Local Authority under Section 60 of the Control of Pollution Act 1974. However, where there is potential for disturbance from construction noise the application will need to include a noise assessment. A construction noise assessment will be required in the following circumstances:

- Where it is proposed to undertake work which is audible at the curtilage of any noise sensitive receptor, out with the hours Mon-Fri 8am to 7pm; Sat 8am to 1pm; or
- Where noise levels during the above periods are likely to exceed 75dB(A) for short term works or 55dB(A) for long term works. Both measurements to be taken as a 1hr LAeq at the curtilage of any noise sensitive receptor. (Generally, long term work is taken to be more than 6 months).

3.31 If an assessment is submitted it should be carried out in accordance with BS 5228-1:2009 "Code of practice for noise and vibration control on construction and open sites – Part 1: Noise". Details of any mitigation measures should be provided including proposed hours of operation.

3.32 Regardless of whether a construction noise assessment is required, it is expected that the developer/contractor will employ the best practicable means to reduce the impact of noise from construction activities. Attention should be given to construction traffic and the use of tonal reversing alarms. If construction methodologies are clarified, it may be that noise can be scoped out of the assessment.

3.33 The proposed site of the wind farm will be over 20km from the north coast of Caithness. As such, operational noise from the wind turbines will not be a significant issue. The operational impact from the supporting infrastructure should however be assessed. Details of what should be considered is in the attached response from colleagues in Environmental Health.

Traffic and Transport

3.34 THC's Transport Planning Team have reviewed the content of the Scoping Report and respond to the questions in its response (attached for information) the response below relates to impacts on the local public road network in Highland. In summary, they are broadly content but further information is required in line with the pre-application advice previously provided. Please see the response attached to this letter for further information.

Construction Traffic Management Plan

3.35 THC Transport Planning will require any application for planning permission associated with this proposal to submit a Construction Traffic Management Plan (CTMP) for the approval of the Planning Authority. A CTMP will normally detail the following issues, however this is not an exhaustive list and the CTMP should be tailored to reflect the issues pertinent to this development:

- Identification of all Council maintained roads likely to be affected by the various stages of the development,
- Predicted volume, type and duration of construction traffic.
- Location of site compound, staff parking and visitor parking.
- Proposed measures to mitigate the impact of general construction traffic and abnormal loads on the local road network following detailed assessment of relevant roads.
- Details of any traffic management signage required for the duration of the construction period.
- Measures to ensure that all affected public roads are kept free of mud and debris arising from the development.
- The developer may also be requested to enter into a Section 96 agreement with the Highland Council to cover any abnormal wear and tear to the Council roads. This will include a requirement for pre and post construction surveys to be undertaken and agreed with the Council and for the provision of a suitable bond.
- If the development involves any abnormal loads a detailed protocol, route and delivery programme will be required and agreed with any interested parties such as Highland Council, the Police, Transport Scotland and community representatives. The protocol shall identify any requirement for convoy working and/or escorting of vehicles and include arrangements to provide advance notice of abnormal load movements in the local media.

3.36 I encourage you to liaise direct with Transport Scotland on impacts on the Trunk Road network.

Socio-Economic, Tourism and Recreation

3.37 The EIAR should estimate who may be affected by the development, in all or in part, which may required individual households to be identified, local communities or a wider socio economic groupings such as tourists and tourist related businesses, recreational groups, economically active, etc. The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction, operation and decommissioning of the development.

3.38 Estimations of who may be affected by the development, in all or in part, which may required individual households to be identified, local communities or a wider socio economic groupings such as tourists and tourist related businesses, recreational groups, economically active, etc should be included. The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction, operation and decommissioning of the development. In this regard wind farm and transmission network development experience in this location should be used to help set the basis of likely impact. This should set out the impact on the regional and local economy, not just the national economy. Any mitigation proposed should also address impacts on the regional and local economy.

3.39 The site is on land with access rights provided by the Land Reform Scotland Act. The potential impact on and mitigation for public access should be assessed incorporating core paths, public rights of way, long distance routes, other paths and wider access rights across the site. There are core paths and public rights of way in this area which are likely to be affected during construction and operational phases.

3.40 An Access Management Plan is required to be submitted with the application. A developments impact on public access is habitually included in this section. Guidance on assessing that impact as part of an EIA in Appendix 6 of this document:

https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf

For the offshore elements to the project this should focus on access to open waters.

3.41 While the Scoping Report and an eventual EIA may include impacts on elements of outdoor access assessed under other headings it is considered that all the impacts on outdoor access should all be brought together here in a comprehensive assessment of the proposals visual and physical impacts on outdoor access during the preparatory, construction, operational and post-operational phases. Those impacts, along with the mitigation measures, will inform an Outdoor or Access Management Plan which should be submitted with an application as per the requirements of HwLDP Policy 77 Outdoor Access. If not, it the Council will ask for a suspensive condition requiring that one be submitted to and approved in writing by the Planning Authority prior to any work starting on site. The gate at the site entrance and any other access gates, must accommodate public access to the side with pass gates and with an internal width of 1.5m on a surfaced pass.

3.42 Considering the potential for this proposal to have significant negative visual and physical impacts on many forms of outdoor access across all phases of the development it is recommend a similarly significant range of mitigation measures.

3.43 Other forms of mitigation will include the accommodation and management of public access across the site in order to minimise any potential negative impacts and maximise benefits to outdoor access. For example all existing paths like core paths, public rights of way Long Distance Routes and trails like the Far North Trail and Cape Wrath Trail should be accommodated before, during and after construction and any damage done to their surfaces be protected and/or repaired at regular intervals throughout an extended construction period and reinstated on or by completion of the project to the satisfaction of those managing those routes.

Aviation, Radar and Telecoms

3.44 The EIAR needs to recognise community assets that are currently in operation for example TV, radio, tele-communication links, aviation interests including radar, MOD safeguards, etc. In this regard the applicant, when submitting a future application, will need to demonstrate what interests they have identified and the outcomes of any consultations with relevant authorities such as Ofcom, NATS, BAA, CAA, MOD, Highlands and Islands Airports Ltd, etc. through the provision of written evidence of concluded discussions / agreed outcomes. We consider the results of these surveys should be contained within the EIAR to determine whether any suspensive conditions are required in relation to such issues. However, it is noted that HIAL do not consider that Civil Airport patterns and procedures can be scoped out. It has set out that an Aviation Impact Feasibility Study should be produced as part of the EIA. Given the NATS response I recommend that you liaise direct with NATS on the scope of the assessment however it has advised that it would have no objection from a safeguarding point of view.

3.45 If there are no predicted effects on communication links as a result of the development, the EIAR should still address this matter by explaining how this conclusion was reached.

Miscellaneous

3.46 The EIAR needs to address all relevant climatic factors which can greatly influence the impact range of many of the preceding factors on account of seasonal changes affecting, rainfall, sunlight, prevailing wind direction etc. From this base data information on the expected impacts of any development can then be founded recognising likely impacts for each phases of development including construction, operation and decommissioning. Issues such as dust, air borne pollution and / or vapours, noise, light, can then be highlighted. Consideration must also be given to the potential health and safety risks associated with lightning strikes.

3.47 A number of the aforementioned matters could be addressed by a CEMD for the proposal. While acceptable in principle we would request that an Outline CEMD is included with the application.

3.48 Transboundary effects should be considered where appropriate given the potential impacts on international waters through the construction process.

3.49 The Council are broadly content with the scope of the proposed assessment on the following matters and our assessment of the proposal would be informed by the responses of consultees such as Marine Scotland, NatureScot and Scottish Environment

Protection Agency. For the avoidance of doubt we do not offer comment on the following matters at this stage:

- Physcical and Coastal Processes
- Water and Sediment Quality
- Bethnic Subtidal and Intertidal Ecology
- Offshore Ornithology;
- Marine Mammals and Mega Fauna;
- Commercial Fisheries;
- Shipping and Navigation;
- Other Sea Users.

With that said we will likely consider these matters in reaching a view on our response to the application in due course.

4.0 Significant Effects on the Environment

4.1 Leading from the assessment of the environmental elements the EIAR needs to describe the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:

- the existence of the development;
- the use of natural resources; and
- the emission of pollutants, the creation of nuisances and the elimination of waste.

4.2 The potential significant effects of development must have regard to:

- the extent of the impact (geographical area and size of the affected population);
- the trans-frontier nature of the impact;
- the magnitude and complexity of the impact;
- the probability of the impact; and
- the duration, frequency and reversibility of the impact.

4.3 The effects of development upon baseline data should be provided in clear summary points.

4.4 The Council requests that when measuring the positive and negative effects of the development a four point scale is used advising any effect to be either strong positive, positive, negative or strong negative.

4.5 The applicant should provide a description of the forecasting methods used to assess the effects on the environment.

5.0 Mitigation

5.1 Consideration of the significance of any adverse impacts of a development will of course be balanced against the projected benefits of the proposal. Valid concerns can be overcome or minimised by mitigation by design, approach or the offer of additional features, both on and off site. A description of the measures envisaged to prevent, reducing and where possible offset any significant adverse effects on the environment must be set out within the EIAR statement and be followed through within the application for development.

5.2 The mitigation being tabled in respect of a single development proposal can be manifold. Consequently the EIAR should present a clear summary table of all mitigation measures associated with the development proposal. This table should be entitled draft Schedule of Mitigation. As the development progresses to procurement and then implementation this carries forward to a requirement for a Construction Environmental Management Document (CEMD) and then Plan (CEMP) which in turn will set the framework for individual Construction Method Statements (CMS). Further guidance can be obtained at:

http://www.highland.gov.uk/NR/rdonlyres/485C70FB-98A7-4F77-8D6B-ED5ACC7409C0/0/construction_environmental_management_22122010.pdf

This is currently under review by a working party led by SEPA working through Heads of Planning Scotland but for the time being remains relevant.

5.3 The implementation of mitigation can often involve a number of parties other than the developer. In particular local liaison groups involving the local community are often deployed to assist with phasing of construction works – abnormal load deliveries, construction works to the road network, blasting, piling etc. It should be made clear within the EIAR or supporting information accompanying a planning application exactly which groups are being involved in such liaison, the remit of the group and the management and resourcing of the required effort.

5.4 This section should also specifically highlight ongoing monitoring work which will help inform mitigation. This includes pre and post construction monitoring and any monitoring to take place during the construction of the track.

Transport Scotland

Development Management and Strategic Road Safety
Roads Directorate

Buchanan House, 58 Port Dundas Road, Glasgow G4 0HF
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TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Jane Renwick
Marine Scotland
Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Marine Scotland
Reference:
SCOP-0012

Date: 22 April 2022

Dear Ms. Renwick,

Regulation 14 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017

Regulation 12 Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

Regulation 13 and Schedule 4 of the Marine Works (Environmental Impact Assessment) Regulations 2007

Request for Scoping Opinion for Proposed Section 36 and Marine License Applications for the West of Orkney Offshore Windfarm Located 23 Kilometres off the Caithness Coast and 28 Kilometres West of Hoy, Orkney Coast

Introduction

The Scoping Opinion request dated 01 April 2022, for the proposed West of Orkney Offshore Wind Farm, has been passed to Jacobs for review in their role as Development Management Auditor and Advisor to Transport Scotland.

This response is informed by the Scoping Report, dated 01 March 2022, which sets out the scope of the Environmental Impact Assessment (EIA) covering both the offshore and onshore transmission infrastructure. The offshore infrastructure includes the proposed generation infrastructure, comprising wind turbine generators (WTGs) and associated foundations and substructures, the Offshore Substation Platforms (OSPs) and associated foundations, the inter-array cables, offshore export cables and landfall. The onshore infrastructure includes the landfall, onshore export cables and onshore substations.

OBSERVATION 1: As requested, and as summarised in Table 1-1 of the Scoping Report, this response focusses on the transport and road traffic impacts of the offshore infrastructure only – Sections 1, 2 and 5 only. The Highland Council and Orkney Islands Council are to consult separately with regards to the onshore infrastructure.

Development Proposals

The proposed development is an offshore wind farm located 23 km from the north coast of Caithness and 28 km from the west coast of Orkney.

The key offshore components of the Project will include:

- Up to 125 WTGs with the option of fixed and/or floating foundations and associated support structures.
- Up to 5 OSPs.
- Up to 750 km of inter-array cables.
- Up to 10 export cables across the Project, including up to 5 to a landfall at Caithness, up to 5 to a landfall at Flotta via onshore sections across Hoy and potentially Fara.

The key onshore components of the Project will include:

- Landfalls, either at Caithness and/or Hoy, Fara and Flotta.
- 1 cable transition joint bay at each landfall.
- Up to 10 onshore export cables, including up to 5 at Caithness and up to 5 across Hoy, Fara and Flotta in Orkney.
- Up to 2 new onshore substations, including one at Spittal (Caithness) and/or one at Flotta (Orkney).
- Temporary construction compounds for the onshore substations and onshore export cables.
- Potential new access tracks for the onshore export cables, landfalls and onshore substations.

The key Project milestones are:

- Commencement of onshore construction – 2027 (duration of 4 years).
- Commencement of offshore construction – 2028 (duration of 4 years).
- First power 2029.

Offshore EIA Scoping

The Scoping Report does not provide a summary of any anticipated road traffic and transport impacts associated with the construction, operation and maintenance and decommissioning of the offshore elements of the proposed development.

OBSERVATION 2: Should there be any road traffic and transport impacts associated with the construction, operation and maintenance and decommissioning of the offshore elements of the proposed development, these should be appropriately scoped with the relevant roads authority / authorities.

I trust this is satisfactory, but should you have any queries please do not hesitate to contact me.

Yours sincerely,

Alan Kerr

Alan.Kerr@transport.gov.scot

Transport Scotland

Roads Directorate

cc Owen O'Reilly, Jacobs

UK Chamber of Shipping

From:	Robert Merrylees
To:	MS Marine Renewables; jane.renwick@scot.gov
Cc:	England D (Debbie); Ross R (Rebecca)
Subject:	RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.
Date:	06 April 2022 17:48:09

Dear Marine Scotland,

Thank you for the consultation on the above-mentioned offshore wind farm proposal, the UK Chamber of Shipping welcomes the opportunity to respond to the Scoping Report.

Recognising the considerable length to the Scoping Report, the Chamber has limited its consultation response to that within the Shipping and Navigation chapter of the report.

The Chamber is aware that the MAIB have spatial accident data extending back to 1992 and is of the view that for long term projects such as offshore wind farms, examining 10 years of accident data is not truly representative of trends and historic incidents. As such the Chamber recommends that 20 years of MAIB spatial accident data be included in the EIA baseline. This request the Chamber is making to all prospective developments and is being met with general agreement.

Given the large area of the proposed development the Chamber would strongly recommend at full 12 months AIS data be acquired in addition to the two – 14 days periods as required. This will fully factor in seasonal variation and occasional traffic. The Chamber would recommend either 2019 or 2021 as preferable years for this data, in recognition of the impact of Covid-19 on shipping, in particular cruise and passenger traffic. A much smaller site, the Pentland Floating Offshore Wind development, has undertaken analysis for such a time period in the general vicinity, and the applicant should be recommended to do the same here given scale.

Serco Northlink are members of the UK Chamber and as such the Chamber represents them, however recognising the repeated references to the Hamnavoe ferry operated by them in the Scoping Report, the Chamber recommends that direct engagement with Serco Northlink be sought promptly.

The Chamber would like to see an extended routeing area considered more widely than the 10nm study area, in particular at the Western extent where the edge of the proposed development comes into close proximity with Skerry rocks as required deviations may have significant routeing implications given proximity to the rocks.

The Chamber otherwise finds the Scoping Report to contain what it would hope for and expect in terms of the data and methodology employed.

The Chamber looks forward to early engagement with the development as the planning and consenting process continues.

Should you wish for further detail or clarification on any of the above points, please do not hesitate to get in touch.

Kind regards,
Robert

UK Chamber of Shipping

UK Centre for Ecology and Hydrology

From: Francis Daunt <frada@ceh.ac.uk>
Sent: 06 May 2022 16:07
To: Edwards E (Ewan) <Ewan.Edwards@gov.scot>; Miller J (Julie) <Julie.Miller@gov.scot>; Holland G (Gayle) <Gayle.Holland@gov.scot>; Erica.Knott@nature.scot
Subject: F Daunt pers comm in Scoping report

Dear all

I am emailing regarding this document:

Scoping Report (marine.gov.scot)

I wanted to alert you to some text on p163:

"While there is a clear gap in tracking information for puffins in northern Scotland, it appears that the value of attaching GPS archival tags to puffins is either disputed or not recommended (F. Daunt, pers comm.). At present, given the uncertainty in the value of using GPS archival tags on puffin, there are no plans to undertake any studies"

This is not something I have said, and it misrepresents my view of the value of GPS tracking of puffins. I was not approached by the authors to provide a pers comm for the report, so do not know its origins.
I thought it was important for you to know as you consider their text, including their decision not to track puffins.

One other point of clarification – I don't know whether the use of 'archival' was a slip of the pen, but people have been using remote download loggers for some time, so archival loggers are no longer relevant.

Kindest regards

Francis

Visit Scotland

12 April 2022

Jane Renwick
Energy Consents Unit
Scottish Government
By email: econsents_admin@gov.scot

Dear Jane Renwick

The West of Orkney Wind Farm

Thank you for giving VisitScotland the opportunity to comment on the above wind farm development.

Our response focuses on the crucial importance of tourism to Scotland's local and national economy, and of the natural landscape for visitors.

Background Information

VisitScotland, as Scotland's National Tourism Organisation, has a strategic role to develop Scottish tourism in order to get the maximum economic benefit for the country. It exists to support the development of the tourism industry in Scotland and to market Scotland as a quality destination.

While VisitScotland understands and appreciates the importance of renewable energy, tourism is crucial to Scotland's economic and cultural well-being. It sustains a great diversity of businesses throughout the country. According to a recent independent report by Deloitte, tourism generates £11 billion for the economy and employs over 200,000 - 9% of the Scottish workforce. Tourism provides jobs in the private sector and stimulates the regeneration of urban and rural areas.

One of the Scottish Government and VisitScotland's key ambitions is to grow tourism revenues and make Scotland one of the world's foremost tourist destinations. This ambition is now common currency in both public and private sectors in Scotland, and the expectations of businesses on the ground have been raised as to how they might contribute to and benefit from such growth.

Importance of scenery to tourism

Scenery and the natural environment have become the two most important factors for visitors in recent years when choosing a holiday location.

The importance of this element to tourism in Scotland cannot be underestimated. The character and visual amenity value of Scotland's landscapes is a key driver of our tourism product: a large majority of visitors to Scotland come because of the landscape, scenery and the wider environment, which supports important visitor activities such as walking, cycling, wildlife watching and visiting historic sites.

The VisitScotland Visitor Experience Survey (2015/16) confirms the basis of this argument with its ranking of the key factors influencing visitors when choosing Scotland as a holiday location. In this study, over half of visitors rated scenery and the natural environment as the main reason for visiting Scotland. Full details of the Visitor Experience Survey can be found on the organisation's corporate

website, here: https://www.visitscotland.org/binaries/content/assets/dot-org/pdf/research-papers/scotland-visitor-survey-2015-16-full.pdf

Taking tourism considerations into account

We would suggest that full consideration is also given to the Scottish Government's 2008 research on the impact of wind farms on tourism. In its report, you can find recommendations for planning authorities which could help to minimise any negative effects of wind farms on the tourism industry. The report also highlights a request, as part of the planning process, to provide a tourism impact statement as part of the Environmental Impact Analysis. Planning authorities should also consider the following factors to ensure that any adverse local impacts on tourism are minimised:

- The number of tourists travelling past en route elsewhere
- The views from accommodation in the area
- The relative scale of tourism impact i.e. local and national
- The potential positives associated with the development
- The views of tourist organisations, i.e. local tourist businesses

The full study can be found at www.scotland.gov.uk/Publications/2008/03/07113507/1

Conclusion

Given the aforementioned importance of Scottish tourism to the economy, and of Scotland's landscape in attracting visitors to Scotland, VisitScotland would strongly recommend any potential detrimental impact of the proposed development on tourism - whether visually, environmentally and economically - be identified and considered in full. This includes when taking decisions over turbine height and number.

VisitScotland strongly agrees with the advice of the Scottish Government –the importance of tourism impact statements should not be diminished, and that, for each site considered, an independent tourism impact assessment should be carried out. This assessment should be geographically sensitive and should consider the potential impact on any tourism offerings in the vicinity.

VisitScotland would also urge consideration of the specific concerns raised above relating to the impact any perceived proliferation of developments may have on the local tourism industry, and therefore the local economy.

I hope this response is helpful to you.

Yours sincerely
Beth Thoms

Government & Parliamentary Affairs
VisitScotland

Whale and Dolphin Conservation Society

From:	Sarah Dolman
To:	MS Marine Renewables; Ross R (Rebecca)
Cc:	England D (Debbie); Renwick J (Jane); Fiona Read
Subject:	RE: SCOP-0012 – Offshore Wind Power Ltd - The West of Orkney Wind Farm – 23km North of Caithness Coast & 28km West of Hoy, Orkney Coast - Consultation on Request for a Scoping Opinion – Response Required by 2nd May 2022.
Date:	26 April 2022 15:10:13
Attachments:	image001.png image002.png

Hi Becca

WDC don't have the capacity to respond to case work currently.

Thanks
Sarah

Sarah Dolman
Bycatch manager

WDC, Whale and Dolphin Conservation
Telephone: +44 (0)1283 246 237
whales.org