Pentland Floating Offshore Wind Farm

Section 36C and Marine Licence Variation Application Report

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Project:	Pentland Floating Offshore Wind Farm
Originator Company	HWL
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03	27.01.2026	Final for Issue	TWA	CMS	PEM

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Glossary of Project Terms

Key Terms	Definition
Current Project Consents	The consents granted for the offshore components of the PFOWF in April 2024, including the Section 36 Consent (as varied), the Offshore Wind Farm Marine Licence (as varied) and the Offshore Transmission Infrastructure Marine Licence (as varied).
Highland Wind Limited	The Developer of the Project and the Applicant for the associated consents and licences.
Offshore Wind Farm Marine Licence	The Marine Licence granted by Scottish Ministers under the Marine (Scotland) Act 2010 on 28 June 2023 in respect of the PFOWF Array and varied by Scottish Ministers on 03 April 2024.
Offshore Transmission Infrastructure Marine Licence	The Marine Licence granted by Scottish Ministers under the Marine (Scotland) Act 2010 on 28 June 2023 in respect of the Offshore Transmission Infrastructure and varied by Scottish Ministers on 03 April 2024.
Offshore Export Cable(s)	The cable(s) that transmits electricity produced by the WTGs to landfall.
Offshore Export Cable Corridor (OECC)	The area within which the Offshore Export Cable(s) will be located.
Original Application	The Section 36 consent application and supporting documents, submitted to Scottish Ministers by HWL on 11 August 2022.
Original Consents	The consents granted for the offshore components of the PFOWF in June 2023, including the Section 36 Consent, the Offshore Wind Farm Marine Licence and the Offshore Transmission Infrastructure Marine Licence.
Original EIAR	The original Environmental Impact Assessment Report submitted in August 2022 in support of the PFOWF consent application
Original RIAA	The Report to Inform Appropriate Assessment completed in June 2023 in respect of the Original Application (as defined).
Pentland Floating Offshore Wind Farm (PFOWF) Array and Offshore Export Cable(s) (the 'Offshore Development')	All offshore components of the Project (WTGs, inter-array and Offshore Export Cable(s), floating substructures, and all other associated offshore infrastructure (i.e. those below mean high water springs) required during operation of the Project, for which HWL has obtained consent.
PFOWF Array	All WTGs, inter-array cables, mooring lines, floating sub-structures and supporting subsea infrastructure within the PFOWF Array Area, excluding the Offshore Export Cable(s).
PFOWF Array Area	The area where the WTGs will be located within the Offshore Site.
PFOWF (the 'Project')	The combined Offshore Development and Onshore Development.
Project Marine Licences	The Offshore Wind Farm Marine Licence and the Offshore Transmission Infrastructure Marine Licences, as varied.
Section 36 Consent	Consent granted by Scottish Ministers under section 36 of the Electricity Act 1989.
Section 36C Variation	Variation made to an existing Section 36 Consent under the Electricity Act 1989, under Regulation 42 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ('the EIA Regulations').

Key Terms	Definition
Variation 01	The variation application made by HWL under section 36C, submitted in October 2023 and granted in April 2024, to refine project parameters and to extend the operational life of the Project.
Variation 02	The current Section 36C variation application and the subject of this document.
Wind Turbine Generator Footprint Area	The Wind Turbine Generator (WTG) footprint area comprises the area of sea surface occupied by the infrastructure at or above sea level (i.e. the WTGs and associated floating substructure).

Acronyms and Abbreviations

AA	Appropriate Assessment
AEOSI	Adverse Effect on Site Integrity
AON	Apparently Occupied Nests
COP	Copenhagen Offshore Partners
CRM	Collision Risk Modelling
DBS	Dogger Bank South
DSRL	Dounreay Site Restoration Limited
DSLP	Design Specification and Layout Plan
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMF	Electro Magnetic Field
GW	Gigawatt
GVA	Gross Value Added
HAT	Highest Astronomical Tide
HRA	Habitat Regulations Appraisal
HWL	Highland Wind Limited
IFP	Instrument Flight Procedure
INNS	Invasive Non Native Species
INTOG	Innovation and Targeted Oil and Gas
km	Kilometre
LAT	Lowest Astronomical Tide
m	Metre
MW	Megawatt
ML	Marine Licence
MD-LOT	Marine Directorate Licensing and Operations Team
NCC	North Caithness Cliffs
NM	Nautical Mile
NS	NatureScot
OECC	Offshore Export Cable Corridor
OTI	Offshore Transmission Infrastructure
OWF	Offshore Wind Farm
PFOWF	Pentland Floating Offshore Wind Farm

PPP	Planning Permission in Principle
PVA	Population Viability Analysis
RIAA	Report to Inform Appropriate Assessment
REZ	Renewable Energy Zone
RPM	Revolutions Per Minute
RSPB	Royal Society for the Protection of Birds
S36	Section 36
SAR	Search and Rescue
SLVIA	Seascape Landscape and Visual Impact Assessment
SPA	Special Protection Area
THC	The Highland Council
WTG	Wind Turbine Generator
UK	United Kingdom

1 Introduction

1.1 Background

The Pentland Floating Offshore Wind Farm (PFOWF) (the 'Project') is a test and demonstrator offshore wind farm, located approximately 7.5 km off the coast of Dounreay, Caithness. The aim of the Project is to test and demonstrate new technologies and solutions to support floating offshore wind farm development in Scotland, the UK and worldwide.

Highland Wind Limited (HWL) was awarded Section 36 Consent (s36 Consent) under the Electricity Act 1989 by the Scottish Ministers on 28 June 2023 for the offshore components of the Project. Marine Licences for the Offshore Wind Farm (OWF) and the Offshore Transmission Infrastructure (OTI) (together the 'Project Marine Licences') were also awarded by the Scottish Ministers on 28 June 2023 under the Marine (Scotland) Act 2010.

On 11 October 2023, HWL applied to Scottish Ministers to vary the s36 consent granted for the Project under s36C of the Electricity Act (Variation 01). Variation 01 also sought to vary the associated Project Marine Licences, under section 30(7) of the Marine (Scotland) Act. Variation 01 was required to refine the design parameters of the Project in response to detailed design activities and to extend the operational life of the Project consents from 10 to 25 years. The varied consents were awarded to HWL by Scottish Ministers on 3 April 2024 to include the s36 consent and the associated Project Marine Licences (MS-00010578 (OWF) and MS-00010577 (OTI)). These are the 'Current Project Consents' and define the design parameters for the consented offshore development.

The onshore components of the Project (above mean low water springs (MLWS)) were the subject of a separate application to the Highland Council (THC) under the Town and Country Planning (Scotland) Act 1997. Planning Permission in Principle (PPP) for the onshore components was granted on 30 January 2023.

This report supports an application by HWL under s36C of the Electricity Act, to request an additional variation to the s36 Consent (as varied) (Variation 02). This report also supports an application to Scottish Ministers under Section 30(7) of the Marine (Scotland) Act, to vary the associated OWF Marine Licence for the Project (MS-00010578). Variation 02 is required to refine the wind turbine generator (WTG) parameters for the Project to secure the flexibility necessary to respond to evolving market conditions and WTG design and supply chains. The drivers behind this include current and projected WTG availability, global supply chain dynamics, and to provide greater stability and reliability of floating foundations.

This Variation Application report demonstrates that HWL is committed to ensuring that there is no appreciable difference in environmental effects from the proposed WTG refinements to those assessed in the Environmental Impact Assessment Report (EIAR) submitted in August 2022 (HWL, 2022a) (the 'Original EIAR'), and the Variation 01 Application (HWL, 2023) submitted in October 2023. There are no additional or greater significant effects from the proposed Variation 02 and any change in effect will be so small as to be insubstantial. Therefore, the proposed s36C Variation does not constitute an EIA application and the current project consents can be varied with no further assessment required.

While the Habitats Regulations Appraisal (HRA) process falls outside of the requirements of the s36 Variation process, it is acknowledged by HWL that concerns were raised by NatureScot (NS), MD-LOT and the Royal Society for the Protection of Birds (RSPB) regarding the original Report to Inform Appropriate Assessment (HWL, 2022b) (the 'Original RIAA') for the Project, and potential adverse in-combination effects on site integrity (AEOSI) for puffin and kittiwake features of the North Caithness Cliffs (NCC) Special Protection Area (SPA). In making an application for Variation 01, HWL provided updated ornithological modelling which demonstrated that the proposed design refinements, which included reducing the number of WTGs from seven to six turbines

and extending the operational life of the Project from 10 to 25 years, did not result in any AEOSI for puffin and kittiwake features of the NCC SPA.

To ensure previous concerns on protected sites are considered, HWL has prepared an addendum to this report (Appendix 3, Revised Ornithology Modelling Report) which addresses the proposed WTG design refinements and the potential implications of these for ornithological features. This addendum provides updated ornithological modelling for kittiwake features of the NCC SPA and demonstrates that there is no appreciable difference in potential effects on kittiwake from those which were approved in Variation 01 for the consented Project. It should also be noted that there is no change proposed to the consented WTG Footprint Area as part of this Variation 02 and, therefore, there will be no change to displacement impacts for any species from those which were approved for the consented Project.

1.2 Document Structure

This document sets out the proposed variations to the s36 Consent (as varied) alongside justification as to why the proposed variations are required. This document also reviews the Original EIAR and Variation 01 application (i.e. the consented project) and, where determined necessary, provides additional information to support the Variation 02 application. Where additional information is provided the report considers the resulting effects of the variation to determine whether the proposed additional design refinements could result in any significant effects which are new or materially different to those of the current consented Project. This is based on MD-LOT's Guidance Note: Application for Variation of Section 36 Consents[1].

To support this variation application, HWL has undertaken consultation with key stakeholders including MD-LOT, NS and The Highland Council (THC). A Variation Screening Report was also submitted to MD-LOT on 9 October 2025 (Document reference: GBPNTD-ENV-PEN-CM-00012). This Variation Application has been updated, as necessary, to take account of comments provided by statutory consultees within the Screening Opinion received on 10 December 2025 (MD-LOT, 2025).

A summary of consultation undertaken, including comments received within the Screening Opinion is provided in Table 2.1, Section 2 of this document. Table 2.1 also confirms how this report has had regard to any comments received.

The remaining document structure is set out as follows:

- Section 2: Consultation
- Section 3: Proposed variation overview, and legislative context
- Section 4: Revised Project parameters and Screening of environmental receptors
- Section 5: Additional information
- Section 6: Ornithology modelling update
- Section 7: Seascape Landscape and Visual comparison
- Section 8: Conclusions

[1] MS-LOT (2019). Energy consents: applications for variation of section 36 consents guidance. Available at https://www.gov.scot/publications/applications-variation-section-36-consents/documents

- Appendices presenting:
    - Appendix 1: Draft revised S36 Consent
    - Appendix 2: Draft revised OWF Marine Licence
    - Appendix 3: Ornithology modelling update
    - Appendix 4: Seascape landscape and visual comparison

2 Consultation

Table 2.1 presents a summary of consultation undertaken, including comments received within the Screening Opinion, and highlights how this report has had regard to any comments received.

Table 2.1. Consultation undertaken

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
MD-LOT	Meeting - 01 May 2025 Presentation of the proposed variation design refinements, ornithology modelling and assessments undertaken.	MD-LOT confirmed no comments on the presentation provided or minutes circulated.	MD-LOT comments are noted
NatureScot and MD-LOT	Meeting – 06 May 2025 Presentation of the proposed variation design refinements, ornithology modelling and assessments undertaken.	NatureScot requested confirmation of the Band Option used and avoidance rates applied. NatureScot confirmed this was a useful presentation with results clearly presented in the manner NatureScot would want to see for the proposed Variation. NatureScot requested sight of detailed modelling reports to understand how the models were run, confirmation of the approach to in-combination assessment and how conclusions of 'no appreciable difference' have been reached. MD-LOT confirmed it would be helpful to see the modelling report, details of the modelling undertaken and the approach for in-combination assessment.	Revised ornithological modelling report (document reference: GB203907) was provided to MD-LOT and NatureScot on 21 July 2025 for review and comment. This report is provided as Appendix 3 to this document. This report has been drafted to include detailed information on ornithological modelling undertaken and approach to in-combination assessment.
MD-LOT	Reports issued – 21 July 2025 SLVIA comparative assessment (document reference: 250609), supporting wirelines and cumulative wirelines. Revised Ornithological Modelling Report	MD-LOT confirmed 25 July 2025 that it had no comments on the revised ornithological modelling or SLVIA wirelines at this time and will defer to NatureScot's advice. MD-LOT highlighted that, as of 27 June 2025, West of Orkney Wind Farm is now consented and the colouring used for the project in the 50km Study Area Figure should be updated.	MD-LOT's confirmation that it will defer to NatureScot's advice is noted. West of Orkney Wind Farm has been updated within the SLVIA cumulative Study Area figure as requested.

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
	(document reference: GB203907).	MD-LOT requested clarity on the proposed consent variation wording.	HWL provided proposed consent variation wording to MD-LOT by email 28 July 2025. MD-LOT confirmed there are no issues with the proposed wording by email August 2025. This Variation Application report presents the proposed consent variation wording.
NatureScot	Reports issued – 21 July 2025 SLVIA comparative assessment (document reference: 250609), supporting wirelines and cumulative wirelines Revised Ornithological Modelling Report (document reference: GB203907).	NatureScot confirmed 12 August 2025 that: - It does not consider that the proposed variation would raise issues of National Interest in relation to its landscape, visual or cumulative effects. This is not to say that the development would not result in significant landscape or visual effects, rather that NatureScot does not judge these effects to meet the threshold in respect of its national remit for landscapes. - There is no change to the footprint between the first (V01) and second variation (V02), therefore the impact on Puffin at NCC SPA is expected to remain unchanged, and puffin displacement does not need to be reassessed. - The approach taken for the distributional response modelling is reasonable, however, the results are not significant enough to affect NatureScot conclusions. - For the Project alone, values are not significantly lower than those consented for Variation 01. - Conclusion for the in-combination assessment of V02 scenarios remains the same as for the consented V01 values, i.e. NatureScot conclude that there will be no adverse effect on site integrity (AEOSI) of the NCC SPA in respect to kittiwake. - Confidence in conclusions would be improved if the 95% confidence intervals could be provided. - HWL should seek clarification from MD-LOT on the approach to in-combination assessment.	Comments and conclusions from NatureScot are welcomed. This report, supported by the revised ornithological modelling report (Appendix 3), includes 95% confidence intervals, as requested, to support the conclusion of no AEOSI for kittiwake features of NCC SPA. The revised ornithological modelling report presents distributional response modelling, based on both 0 km and 2 km boundary for comparison. HWL requested confirmation from MD-LOT on 14 August 2025, that the approach to in-combination assessment for the variation application is appropriate and proportionate.

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
MD-LOT	Meeting 7 August 2025 HWL requested confirmation of Screening timelines and ability to submit s36 consent variation application without Screening.	MD-LOT confirmed 19 August 2025 timelines and process for provision of a Screening Opinion. MD-LOT confirmed the variation application would fall under section 13 of schedule 2 of The Marine Works (EIA) (Scotland) Regulations 2017. Based on the details received to date, MD-LOT does not consider the thresholds and criteria associated with section 3j of schedule 2 to be met or exceeded by the works as changed or extended from what has already been authorised. Therefore, MD-LOT advises that HWL can apply to vary its marine licence without first undergoing screening or submitting an EIA Report alongside its application.	MD-LOT's confirmation of screening timelines and ability to apply for the variation without first undergoing screening or submitting an EIA report, if required, is noted.
THC	Meeting 4 August 2025 Presentation of the proposed variation design refinements, and assessments undertaken.	THC confirmed it does not see an issue with the small increase in WTG size in terms of landscape and visual effects and the question of materiality would rest on the ornithological assessments and NatureScot's feedback on the proposals. THC confirmed it would review the application once received, alongside NatureScot's advice and would provide feedback.	THC comments are noted.
MD-LOT	Screening Opinion received 11 December 2025 Summary	MD-LOT confirmed that the Consented Development is an Environmental Impact Assessment ("EIA") project, therefore, the Scottish Ministers consider the Proposed Development to fall under paragraph 13 of schedule 2 of The Marine Works (EIA) (Scotland) Regulations 2017 ("the 2017 MW Regulations"), with the Proposed Development meeting the corresponding threshold described in column 2 of schedule 2. The Scottish Ministers also consider the Proposed Development to fall under paragraph 3 of schedule 2 of The Electricity Works (EIA) (Scotland) Regulations 2017 ("the 2017 EW Regulations"). In terms of the characteristics of the works, MD-LOT noted that the changes to the Consented Development focus on refining the WTG parameters. The number of consented WTGs, the footprint of the array area and the parameters of the associated infrastructure of the Proposed Development remains unchanged from the Consented Development, there will be no temporal change to the Consented Development and its operational lifespan will remain at 25 years.	The response from MD-LOT is noted and HWL welcome confirmation that an EIA is not required for the S36C Variation Application under the 2017 MW Regulations and the 2017 EW Regulations.

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
		In terms of the location of the works, MD-LOT noted that any aspects of the Consented Development that are changed by the Proposed Development will occur entirely within the WTG array area. MD-LOT concluded that the Proposed Development is not an EIA project under the 2017 MW Regulations and the 2017 EW Regulations, and an EIA is not required to be carried out in respect of the Proposed Development.	
NatureScot	Screening Response received 11 December 2025 Summary	NS confirmed that overall, it is content with the approaches and findings outlined in the Screening Report and consider that the proposed variation would not require a full EIA to support the proposed Variation 02 application. In terms of SLVIA NatureScot confirmed that it does not consider the proposed Variation 02 capable of raising issues of National Interest in relation to its landscape, visual or cumulative effects. In terms of ornithology NatureScot confirmed that the Habitats Regulations Appraisal process falls outwith the requirements of EIA Screening and note that HWL have provided an addendum which addresses potential implications of the Variation 02 refinements on ornithological features and designated sites. NatureScot highlighted an error within the Screening Report with regards to Table 4.1 and 4.2 and note that Scenario 1 is the only scenario to have an increase in rotor swept area from the original consent. NatureScot further advised HWL to provide a revised ornithological assessment with the Variation 02 Application which looks at the project alone and in-combination impacts, and focuses on collision risk modelling for kittiwake as a feature of the NCC SPA. The assessment should include 95% confidence intervals for population viability analysis.	The response from NatureScot is noted. HWL welcome confirmation that overall NatureScot is content with the approaches and findings outlined in the Screening Report and that the S36C Variation Application does not require an EIA. HWL also welcome confirmation that NatureScot does not consider the proposed Variation 02 capable of raising issues of National Interest in relation to landscape, visual or cumulative effects. HWL note the error between Table's 4.1 and 4.2 and have updated this within this Variation Application Report. As requested by NatureScot HWL will submit the revised ornithological assessment with the Variation 02 Application. This focuses on kittiwake as a feature of the NCC SPA and provides 95% confidence intervals for population viability analysis.
NatureScot	Email response 12 December 2025 HWL requested clarification on NatureScot's Screening response	NatureScot provided clarification to HWL on its request for a revised ornithological assessment for the Variation 02 Application. NatureScot confirmed that the ornithology reassessment that was supplied within the screening request contained the updates that were requested in August, and therefore, a new ornithological re-	HWL welcomes confirmation from NatureScot that the revised ornithology assessment submitted with the Screening Report is sufficient and contains the necessary information, and

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
		assessment is not required to be submitted with the Variation 02 Application. The ornithology assessment supplied with the screening request is sufficient, and NatureScot will review this along with the variation application when submitted next year.	that a new re-assessment is not required. HWL will submit the revised ornithology assessment, as provided previously, with the Variation 02 Application for NatureScot's review.
Historic Environment Scotland	Screening Response received 11 December 2025 Summary	HES noted that the assessment states that there will be no further significant impacts from the proposals, and confirmed it is content to agree with this assessment regarding its interests. HES confirmed it has no further comments to make on the proposals.	HWL welcomes the response from HES and confirmation of its agreement, that there will be no significant impacts on known or designated heritage assets as a result of the Variation 02 proposed.
Scottish Environment and Protection Agency (SEPA)	Screening Response received 11 December 2025 Summary	SEPA confirmed that, based on the information submitted, it considers that with respect to interests relevant to its remit, the proposed development will be unlikely to have a significant effect (in the context of the Regulations) on the environment and therefore Environmental Impact Assessment (EIA) is not required.	HWL welcomes the response from SEPA and confirmation that an EIA is not required for the Variation 02 Application.
The Highland Council (THC)	Screening Response received 11 December 2025 Summary	THC confirmed that an EIA is not required for the s36C Variation. The rationale behind this advice is that the proposal does not constitute Schedule 1 development and, while the proposal does fall within the definition of 'Schedule 2 development' (Regulation 2 -Interpretation), in that it is a generating station, having screened it against the selection criteria outlined in Schedule 3 (including cumulative impact, pollution, impact on natural resources/the natural environment, environmental quality and the historic environment), impact on the receiving environment, while possible, is not considered to be significant. Therefore, The Highland Council does not consider the proposed development to constitute 'EIA development' and an Environmental Impact Assessment (EIA) is not required. THC further advised that while it is currently anticipated that the proposed variation will not result in significant adverse environmental effects, further details, as requested by NatureScot, must be provided within the application to verify this conclusion.	HWL welcomes the response from THC and confirmation that the proposed S36 Variation Application does not constitute EIA development and an EIA is not required. In respect of further details requested by NatureScot, HWL will provide the revised ornithology assessment (Appendix 3, as confirmed in its response to NatureScot.

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
Orkney Islands Council (OIC)	Screening Response received 11 December 2025 Summary	OIC confirmed that its marine planning team have no comments to make on the S36C Variation 02 Application.	HWL notes the response from OIC, that it has no comments to make.
Marine Directorate Science, Evidence, Data and Digital (MD-SEDD)	Email response 08 January 2026 MD-SEDD advice on assessment approaches provided	MD-SEDD advise that, based on the Revised Ornithology Modelling Report dated 8 July 2025: MD-SEDD agree with both NatureScot and the Revised Ornithology Modelling Report by HWL and advise that the Puffin displacement at NCC SPA does not need to be re-assessed. The impact on Puffin is expected to remain unchanged because the footprint of the Variations 01 and 02 is the same. MD-SEDD have reviewed the SeabORD outputs presented for approaches used in Variations 01 and 02. The main difference between the two approaches relates to chick mortalities, with adult mortalities remaining broadly similar. MD-SEDD advise that these differences are not expected to result in appreciable changes to the overall population-level conclusions compared to those reached in V01. MD-SEDD agree with NatureScot response of 12 August 2025 that the project alone would result in no adverse effect on the site integrity for kittiwakes as a qualifying interest of NCC SPA. This is after confirming that the CPS values and CGR values resulting from the V02 design scenarios are not significantly lower than those consented for the V01 application. With regards to the in-combination assessment, MD-SEDD have reviewed the CPS values and CGR values resulting from the V02 scenarios and advise that these values are very similar to the consented values for V01. MD-SEDD agree with NatureScot response of 12 August 2025 that the in-combination assessment of V02 scenarios, with the air gaps which have been assessed through PVA, remains the same as for the consented V01 values. MD-SEDD advise that there will be no adverse effect on site integrity of the NCC SPA in respect to kittiwake in-combination.	Comments and conclusions from MD-SEDD are welcomed. This report is supported by the Revised Ornithological Modelling Report (Appendix 3) to support the conclusion of no AEOSI for kittiwake features of NCC SPA, both project alone and in-combination.
MD-LOT	Email response 14 January 2026 MD-LOT position on approach to in-	Both NatureScot and MD-SEDD have reviewed the presented approach to in-combination assessment, which includes the following assertions: - Variation 02 has similar or lesser environmental effects when compared to the consented project	Advice from MD-LOT is noted. This report is supported by the Revised Ornithological Modelling Report in Appendix 3. This

Consultee	Consultation and Date	Summary of Consultation Undertaken	Addressed in this Report
	combination assessments	- Other projects have already accounted for the consented project in their in-combination assessments - Therefore, variation 02 doesn't need to carry out a new in-combination assessment Both NatureScot and SEDD advise that this is the likely outcome of the proposed changes in variation 02, but this is conditional on the outcome of assessments submitted with the variation application. NatureScot, and SEDD, agree that: If the updated project-alone mortality figures are lower than those from the already consented project: All other projects will already have accounted for these impacts in in-combination assessments. If any updated project-alone mortality figures are higher than the consented figures: In-combination assessments of other projects may need to be updated And AEOSI may be concluded for the sites/species which were previously assessed as having no AEOSI. Additional impacts that lead to a different conclusion on AEOSI - alone or in-combination - may require compensation MD-LOT advise that these considerations should be considered in the submission of the Pentland variation 02.	demonstrates that there are no substantive changes in impacts from Variation 02 and any changes would not be measurable against background levels of variability within the NCC SPA kittiwake population or error margins of modelling undertaken. This supports the conclusion of no AEOSI for kittiwake features of NCC SPA, both for project alone and in-combination, as highlighted by NatureScot and MD-SEDD.

3 Proposed Variation

3.1 Overview

HWL is seeking consent from the Scottish Ministers to vary the current s36 Consent (as varied) under the Electricity Act 1989 for the Project. The variation is required to refine the WTG parameters for the Project, to enable an increase in rotor diameter and a decrease in air gap, to secure the flexibility required for WTG supply and provide greater stability of floating foundations. Through discussion with WTG suppliers and consideration of actual machines available to the Project, the proposed variation also includes associated reductions in blade width, revolution speed (rpm) and operational time, informed by further analysis of site specific data.

The design refinements proposed will enable the construction of one of three potential WTG design scenarios that are under consideration for the Project. Each of the three design scenarios has a proposed number of WTGs, rotor diameter and air gap, and it should be noted that only one design scenario will be constructed, with that scenario confirmed and approved within the Project's Design Specification and Layout Plan (DSLP) prior to construction.

The proposed parameter refinements are set out below, noting that parameters will vary within this design envelope, depending on the WTG design scenario under consideration:

- Increase in rotor diameter from 1 x WTG with rotor diameter of 220 m and 5 x WTGs with rotor diameter of 250 m, to a maximum of 6 x WTGs with rotor diameter 260 m;
- Reduction in air gap from 35 m to a minimum of 28 m;
- Reduction in blade width from 7 m to a maximum of 6.93 m;
- Reduction in rpm from 8 to a maximum of 6.61; and
- Reduction in operational time from an average of 95% (operational) and 5% (downtime) to an average of 88% (operational) and 12% (downtime).

The three WTG design scenarios under consideration for the Project are:

1. Design Scenario 1: 6 x WTGs with rotor diameter 260 m and air gap of 30 m
2. Design Scenario 2: 5 x WTGs with rotor diameter 260 m and air gap of 28 m
3. Design Scenario 3: 6 x WTGs with rotor diameter 236 m and air gap of 28 m

With reference to the Current Project Consents (as varied in 2024), no changes are proposed to the maximum tip height or hub heights of the WTGs, no changes are proposed to the WTG footprint area (the area within the array that the WTGs are located), and no changes are proposed to associated infrastructure, including number of floating foundations, number of mooring lines, anchors/piles, cables or cable or scour protection.

HWL is also requesting that the associated OWF Marine Licence (licence number ML-00010578) is varied by the Scottish Ministers under section 30 of the Marine (Scotland) Act, to reflect amendments to the s36 Consent. Draft proposed changes to the s36 Consent and OWF Marine Licence are included within this Variation Application report (Appendix 1 and Appendix 2 respectively).

3.2 Consented Development

The current s36 Consent (as varied) permits the development of a test and demonstration floating OWF in the Pentland Firth, located as shown on Figure 2.1. The s36 Consent includes the following key parameters:

- The construction and operation of an offshore energy generating station with a generating capacity of around 100 megawatts (MW). The offshore generating station shall be comprised of up to:
    - Five floating offshore WTGs with:
        - A maximum hub height of 190 m above Highest Astronomical Tide (HAT);
        - A maximum height to blade tip of 300 m above HAT;
        - A maximum rotor diameter of 250 m;
        - A minimum blade tip clearance from mean sea level (MSL) of 35 m;
    - One floating offshore WTG with:
        - A maximum hub height of 190 m above Highest Astronomical Tide (HAT);
        - A maximum height to blade tip of 300 m above HAT;
        - A maximum rotor diameter of 220 m;

        - A minimum blade tip clearance from mean sea level (MSL) of 35 m;
    - Six associated floating substructures;
    - Nine mooring lines for each floating substructure, 54 in total;
    - Nine anchors or piles for each floating substructure, 54 in total;
    - Seven inter-array cables (dynamic and static); and
    - Associated scour and cable protections.

The consented development is also detailed in The Scottish Ministers Decision Notice for the s36 Consent (as varied). For reference, the varied s36 Consent documents, the Original Consent Documents and the Original EIAR for Project can be accessed at: https://marine.gov.scot/ml/pentland-floating-offshore-wind-farm

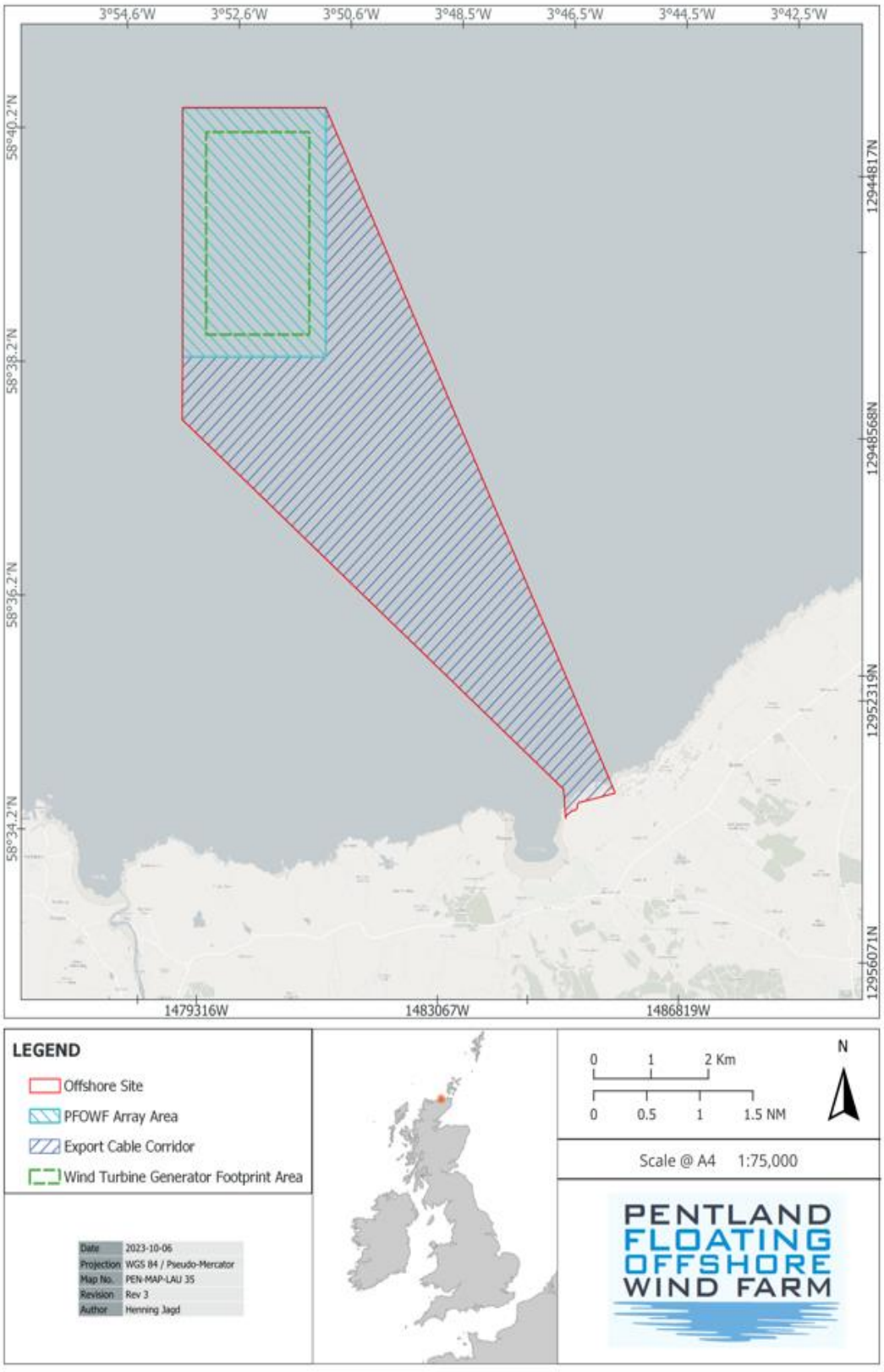

Figure 2.1 Consented Offshore Project Boundaries (Varied April 2024)

3.3 Need for the Variation

Since the Original Application and Variation 01, HWL has successfully secured a Contract for Difference (CfD) with the UK Government in Auction Round 7, as well as additional investment from Eurus Energy, Great British Energy, the Scottish National Investment Bank, and the National Wealth Fund. In parallel, HWL has worked closely with its engineering teams to progress key workstreams, including fabrication of the floating foundations and engagement with wind turbine generator (WTG) suppliers to understand the technologies likely to be available to the Project.

This work has identified a requirement for the Project to consider the next generation of WTGs entering the market, which necessitates an increase in the maximum rotor diameter, reverting to that approved under the Original Application. This change is required to provide sufficient flexibility in WTG supplier selection and, ultimately, to support delivery of energy at the lowest cost to consumers. In addition, detailed engineering design has identified the need to reduce the minimum blade tip clearance of the WTGs from that submitted in the Original Application and Variation 01, in order to maintain the required stability and reliability of both the WTGs and the floating foundations. Discussions with WTG suppliers, alongside detailed analysis of metocean data now available to the Project, has also enabled further refinement of WTG parameters, based on actual turbine characteristics and site-specific information. This has reduced uncertainty in WTG design and informed final design options, including the proposed changes to rotor diameter, alongside reductions in rpm, blade width and operational time.

These design refinements have resulted in the requirement for an additional variation to the Project consents to provide flexibility in WTG supply and to increase stability of floating foundations. This will require further refinement of WTG parameters to the previously consented and varied project parameters set out in the Original Consents (June 2023) and Current Project Consents (April 2024).

As a test and demonstrator project the PFOWF will enable the development of floating offshore wind farms in Scotland, the UK and worldwide. The consent variation and design refinements proposed within this document will ensure that the environmental effects of the Project are minimised, while optimising Project design to ensure delivery at the lowest cost of energy to consumers. The innovations and technology trialled in the delivery of the Project will also be key to advancing the timely deployment of large-scale floating offshore wind in the UK, including the successful realisation of nearly 15 GW of floating capacity allocated under the ScotWind leasing round, and up to 5 GW of additional floating capacity under the Innovation and Targeted Oil and Gas (INTOG) leasing round.

3.4 Legislative Context

Section 36 of the Electricity Act 1989 applies to proposals for any offshore generating station whose capacity exceeds 1 MW within Scottish territorial waters. Offshore generating stations also require a marine licence under the Marine (Scotland) Act, 2010 (between 0 and 12 nautical miles (NM)) or under the Marine and Coastal Access Act, 2009 (between 12 and 200 NM). Section 20 of the Growth and Infrastructure Act, 2013 inserted a new s36C into the 1989 Act to provide for the making of variations to s36 consents. Prior to 2013, the 1989 Act did not provide for s36 consents to be varied.

The Electricity Generating Stations (Applications for Variation of Consent) (Scotland) Regulations 2013 ('the 2013 Regulations') came into force in December 2013. The 2013 Regulations were later amended by Regulation 42 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ('the EIA Regulations'). The regulations make provision for the content of a variation application and the consultation process to be followed with respect to s36C applications.

Under paragraph 3 of Schedule 2 of the EIA Regulations, and paragraph 13 of Schedule 2 of the Marine Works (EIA) (Scotland) Regulations 2017 ('the Marine Works EIA Regulations'), any change to works already authorised which were subject to an EIA must be considered to determine whether that change may introduce

a new significant effect, or may increase or intensify an existing effect such that the effect would now be significant and, as such, an EIA is required. Where a proposed variation is unlikely to have significant environmental effects beyond those already identified for the authorised project, no EIA Report or process would be required in respect of the variation application.

The proposed variations fall under Schedules 2(3) and 2(13) of the 2017 Electricity Works Regulations and the 2017 Marine Works Regulations, respectively and, as such, on 9 October 2025 HWL submitted a Screening Report and request for a Screening Opinion from MD-LOT as to whether the variations constituted an EIA project. On 10 December 2025, MD-LOT issued a Screening Opinion on behalf of Scottish Ministers confirming that an EIA is not required to be carried out in respect of the proposed works under the 2017 Marine Works Regulation or the 2017 Electricity Works Regulations.

HWL is also requesting that, should the variation of the s36 Consent be granted, the associated wind farm Marine Licence (Licence Number: ML- 00010578) is also varied by the Scottish Ministers under section 30 of the Marine (Scotland) Act 2010 to reflect amendments to the s36 Consent.

3.4.1 Section 36C Variation Application

Under Regulation 3 of the Electricity Generating Stations (Applications for Variation of Consent) (Scotland) Regulations 2013 a 36C Consent variation application must:

- *be made in writing;*
- *describe the proposed development and identify the location of the proposed development by reference to a map;*
- *explain why it is proposed that the relevant section 36 consent should be varied; and*
- *include—*
    - *a draft of the variations which it is proposed should be made to the relevant section 36 consent;*
    - *copies of any maps or plans not referred to in the relevant section 36 consent which it is proposed should be referred to in the relevant section 36 consent as so varied; and*
    - *particulars of— the relevant section 36 consent, and, if that consent was not granted to the applicant, how the applicant has the benefit of that consent.*

In line with Regulation 3, a draft of the proposed variations to the S36 Consent are set out at Appendix 1 and a draft revised OWF Marine Licence is included at Appendix 2. In each case, proposed amendments to the consents are set out as track changes.

4 Revised Project Parameters

As described in section 3.1, WTG parameters have been refined, through discussion with WTG suppliers and based on actual WTG machines available to the Project. This has identified an increase in rotor diameter and reductions in blade width and revolution speed (rpm) for specific WTGs, as well as a reduction in operational time versus downtime for the Project.

Since the submission of the Original Application and Variation 01 the Project has continued to collect high fidelity information for the Array Site including wind speed data from deployed FLiDAR and hindcast datasets, as well as detailed information related to WTG cut-in (wind speed at which the rotors will start rotating) and

cut-out speeds (wind speed at which the rotors will stop rotating to preserve integrity in high wind speeds) for the WTGs available. This has allowed the operational time versus downtime percentages to be refined, reflective of the time that wind speeds will be either too low or too high, to allow the turbines to rotate. This is combined with detailed information on downtime associated with servicing and repair scenarios, based on asset management and maintenance regimes of existing WTGs, to provide an accurate description of operational time versus downtime compared to the Original Application and Variation 01.

For each of the WTG design scenarios the cut-in and cut-out speeds are the same and differences between operational and maintenance activities are not discernible. Therefore, the same operational/downtime is applied in each design scenario.

Table 4.1 details the proposed parameter variations to the WTG parameters for the three WTG design scenarios under consideration and, for clarity, compares these parameters to the Original Application and Variation 01 (highlighted in blue). Table 4.1 also highlights where the proposed changes to the parameters would require the current wording of the s36 Consent and/or the marine licences to be varied.

Table 4.1. Proposed Parameter Variations

Parameter	Original Consent	Consented Project	Proposed Variation 02 (WTGs)			Proposed Consent Parameter	Proposed s36 Amendment	Proposed ML Amendment
			Scenario 1	Scenario 2	Scenario 3			
Number of WTGs	7	6	6	5	6	6	Text to be amended within s36 Consent	Text to be amended within OWF ML 00010578
Rotor diameter (RD) (m)	260	1 x WTG RD 220 m 5 x WTG RD 250 m	260	260	236	260	Text to be amended within s36 Consent	Text to be amended within OWF ML 00010578
Minimum blade tip clearance (m)	35	35	30	28	28	28*	Text to be amended within s36 Consent	Text to be amended within OWF ML 00010578
Rotor Swept Area (m^2)	316,673	283,448	318,557	265,464	262,461	318,557	No amendment to s36 Consent wording required	No amendment to ML wording required
Blade width (m)	9	7	6.93	6.93	5.1	6.93	No amendment to s36 Consent wording required	No amendment to ML wording required
rpm	10	8	6	6	6.61	6.61	No amendment to s36 Consent wording required	No amendment to ML wording required
Estimated WTG operational/downtime (%)	95/5	95/5	88/12			88/12	No amendment to s36 Consent wording required	No amendment to ML wording required
WTG footprint Area (km^2)	10	5.85	5.85			5.85	No amendment to s36 Consent wording required	No amendment to ML wording required

*As described in Section 3.1, Variation 02 is proposed to allow the selection of one of three WTG design scenarios within a design envelope. Where Scenario 1 is selected (6 x WTGs with rotor diameter of 260m), air gap will be a minimum of 30 m. Where Scenario 2 or 3 is selected (5 x WTGs with rotor diameter of 260 m, or 6 x WTG with rotor diameter of 236 m), air gap will be a minimum of 28 m.

4.1 Screening Environmental Receptors

The following section considers the implications of the proposed WTG design refinements on each environmental receptor topic assessed within the Original EIAR and Variation 01 Application. This considers the three different WTG design scenarios and associated maximum or minimum parameters defined.

In considering the proposed design refinements, the following points should be noted:

- No changes are proposed to the maximum WTG number and therefore the number of floating substructures, mooring lines, anchors and inter-array and export cables remains the same as for the consented project;
- No changes are proposed to the WTG footprint area defined in the consented project, therefore there will be no increase in displacement impacts on any bird species;
- The Project is committed to ensuring there is no appreciable difference in effects due to the proposed WTG refinements, the proposed parameter changes remain acceptable in terms of population level impacts to kittiwake features of the NCC SPA, and as a result, there will be no AEOSI. Full details of updated ornithological modelling are provided in Section 6, supported by Appendix 3 to this report.

Table 4.2 summarises the environmental receptor topics and associated significance of effect previously assessed within the Original EIAR and Variation 01 for the consented project, and considers whether this has the potential to change as a result of the proposed additional variations and, if so, whether additional information is required to enable MD-LOT to determine the application.

Table 4.2. Screening of Environmental Receptor Topics and Provision of Additional Information

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
Marine Physical Processes	<u>Construction/Decommissioning</u> - Increase in suspended sediment concentration - Loss/alteration of seabed characteristics <u>Operation and maintenance</u> - Changes to wave and tide regime - Changes to sediment transport regime - Introduction of scour - Impacts on fronts and stratification	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design Refinements</u> No significant adverse effects were identified on marine physical processes within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on marine physical processes compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIA and Variation 01 remain valid.	No
Water and Sediment Quality	<u>Construction/Decommissioning</u> - Disturbance and release of contaminated sediments or radioactive particles in - Changes in water and sediment quality and status due to accidental release of contaminants or radioactive particles - Changes in water and sediment quality and status due to risk of Invasive Non-native Species (INNS) settlement and redistribution <u>Operation and maintenance</u>	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the	<u>Design Refinements</u> No significant adverse effects were identified on water quality within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on water and sediment quality compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No	No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	- Changes in water quality due to operational cleaning and painting		Original EIAR remain valid	new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIA and Variation 01 remain valid.	
Benthic Ecology	<u>Construction/Decommissioning</u> - Damage from placement of infrastructure (cables, moorings, anchors on the seabed) - Suspension of sediments from the installation of marine infrastructure - Disturbance of contaminated sediments - Introduction of marine invasive non-native species (INNS) - Deposition of drill cuttings <u>Operation and maintenance</u> - Hydrodynamic changes leading to scour and abrasion around subsea infrastructure - Introduction of marine INNS - Colonisation of subsea infrastructure - Impact to benthic communities from any EMF and thermal load from cables	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design Refinements</u> No significant adverse effects were identified on benthic ecology within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on benthic ecology compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIA and Variation 01 remain valid.	No
Fish and Shellfish Ecology	<u>Construction</u> - Disturbance or damage to sensitive species due to underwater noise from construction activities - Direct habitat loss due to disturbance of spawning and nursery grounds from construction activities - Effects of increased sedimentation / smothering on fish and shellfish - Temporary burial of seabed from drill cuttings - Potential accidental release of pollutants	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design Refinements</u> No significant adverse effects were identified on fish and shellfish ecology within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on fish and shellfish ecology compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result	No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	Operation and maintenance - Habitat loss of spawning and nursery grounds due to presence of anchors and cables on seabed - Effects of EMF from cables on sensitive species - Fish aggregation around the floating structure and associated infrastructure - Ghost fishing (lost fishing gear) becoming entangled in installed infrastructure			of the WTG design refinements, and therefore the findings of the Original EIA and Variation 01 remain valid.	
Marine Mammals and Other Megafauna	Construction/Decommissioning - Noise related impacts to marine mammals from construction activities - Noise related impacts to basking sharks from low-frequency construction noise Operation and maintenance - Noise related impacts to marine mammals during operation and maintenance - Entanglement risk to marine mammals and basking sharks - Collision risk to marine mammals and basking sharks - Displacement or barrier effects - Long term habitat change	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	Design Refinements No significant adverse effects were identified on marine mammals and other megafauna within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on marine mammals or megafauna compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIA and Variation 01 remain valid.	No
Marine Ornithology	Construction/decommissioning - Disturbance/displacement/exclusion due to construction/decommissioning noise or physical presence of vessels - Barrier effects due to physical presence of vessels and construction/decommissioning equipment - Change in habitat/prey availability during construction/decommissioning	Negligible to Minor Effects No risk of significant additional collision impacts arising from the Offshore Development	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design	Design Refinements No significant adverse effects were identified on marine ornithology within the Original EIAR or Variation 01. The proposed design refinements result in a small increase in rotor diameter for design scenarios 1 and 2, with a reduction in WTG number for scenario 2 and a reduction in rotor diameter for	Yes An addendum is provided with this Variation Application Report (Appendix 3), that

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	- Increase in suspended sediment affecting visibility during construction/decommissioning <u>Operation and maintenance</u> - Collision risk with operational WTGs - Displacement impacts due to physical presence of WTGs - Barrier effects due to physical presence of WTGs - Entanglement with debris caught on mooring lines - Disturbance/exclusion due to marine noise and maintenance works - Change in habitat/prey availability due to physical presence of WTGs, scour and cable protection - Increase in suspended sediment from operations and maintenance work affecting visibility - Creation of roosting habitat or foraging opportunities	Residual Effects Not Significant	refinements and the findings of the Original EIAR remain valid	scenario 3. As a result, design scenarios 2 and 3 provide a rotor swept area that is less than that of the Original EIAR and Variation 01. The proposed design refinements for scenario 1 provide a small increase in rotor swept area compared to the Original EIAR and Variation 01. Minimum blade tip clearance is reduced for all three refined design WTG scenarios, whilst blade width, rpm and operational time are also reduced compared to both the Original EIAR and Variation 01, based on specific design and detailed site information. The WTG footprint area is less than the Original EIAR and the same as Variation 01 in all three WTG design scenarios and no new impacts are identified as a result of the design refinements proposed. HWL is committed to ensuring that there is no appreciable difference in effects due to the proposed WTG refinements, and the proposed parameter changes remain acceptable in terms of population level impacts to kittiwake features of the NCC SPA.	demonstrates there is no appreciable difference in effects due to the proposed WTG design refinements, and the proposed parameter changes remain acceptable in terms of population level impacts to kittiwake features of the NCC SPA.
Commercial Fisheries	<u>Construction/decommissioning</u> - Loss of access to fishing grounds due to the presence of vessels and safety zones - Displacement of fishing activity into other areas - Fishing gear entanglement with subsea structures, resulting in damage, loss of fishing gear or ghost fishing <u>Operation and maintenance</u>	Negligible to Tolerable with Mitigation Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the	<u>Design Refinements</u> No significant adverse effects were identified on commercial fisheries within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on commercial fisheries compared to	No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	- Loss of access to fishing grounds due to floating platforms, associated moorings and safety zones - Displacement to other fishing grounds resulting in increased pressure on resources or conflict with other sea users due to floating platforms, associated moorings and safety zones - Fishing gear entanglement with floating subsea structures resulting in damage loss of fishing gear or ghost fishing		findings of the Original EIAR remain valid	those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIAR and Variation 01 remain valid.	
Shipping and Navigation	<u>Construction/decommissioning</u> - Vessel displacement due to construction / decommissioning activities leading to increased risk for third-party vessels and/or reduction in port access - Vessel to vessel collision risk between a third-party vessel and Project vessel - Vessel to structure allision risk due to the presence of new structures associated with the Project - Fishing gear interaction with subsea infrastructure - Reduction in under keel clearance due to subsea cables / cable protection leading to increased grounding risk <u>Operation and maintenance</u> - Vessel to vessel displacement due to presence of new structures leading to increased collision risk for third-party vessels and/or reduction in port access - Vessel to vessel collision risk between a third-party vessel and Project vessel	Broadly Acceptable to Tolerable with Mitigation Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design refinements</u> No significant adverse effects were identified on shipping and navigation within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on shipping and navigation compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIAR and Variation 01 remain valid.	No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	- Vessel to structure allision risk due to the presence of new structures associated with the Project - Anchor interaction with subsea infrastructure - Fishing gear interaction with subsea infrastructure - Transiting vessel interaction with subsea infrastructure - Reduction in under keel clearance due to subsea cables / cable protection leading to increased grounding risk - Reduction in emergency response capabilities due to increased incident rate and/or reduced access for SAR responders				
Aviation and Radar	<u>Construction/decommissioning</u> - Potential impact on Wick airport IFPs - Potential impact on military low flying and UK SAR helicopter operations <u>Operation and maintenance</u> - Potential impact on Wick airport IFPs - Potential impact on military low flying and UK SAR helicopter operations	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design Refinements</u> No significant adverse effects were identified on aviation and radar within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number and no increase to tip height. As a result, the potential obstacles to aviation and radar receptors will be the same as those assessed within Variation 01 and reduced compared to Original EIAR. No new impacts are identified as a result of the design refinements and therefore, the findings of the original EIAR and Variation 01 remain valid.	No
Seascape Landscape and Visual Amenity	<u>Construction/decommissioning</u> - Effect on seascape/landscape character and visual amenity due to the presence and	Minor to Major/Moderate	Comparative assessment concluded, that despite	<u>Design Refinements</u> The Original EIAR resulted in the identification of significant adverse effects on landscape and coastal character, landscape designations and	Yes Section 7 and Appendix 4 of

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	activity of construction/decommissioning vessels - Effect on seascape/landscape character and visual amenity due to the installation of the offshore WTGs and floating substructures - Effect on visual amenity due to the use of artificial lighting to enable construction/decommissioning works during the hours of darkness <u>Operation and maintenance</u> - Effect on seascape/landscape character and visual amenity due to the presence of offshore WTGs and the movement of blades and presence of floating substructures - Effect on seascape/landscape character and visual amenity due to the use of aviation lighting on offshore WTGs during the hours of darkness over the 30-year life - Effect on seascape/landscape character and visual amenity due to the use of helicopters and maintenance vessels to service the Project over the 30-year life	Residual Effect Significant The effects are found to be localised within the SLVIA Study Area, affecting an area of coast and landscape that currently has energy and onshore wind development. Localised nature of the effects means that the majority of landscape and visual receptors across the wider Study Area will either undergo Not Significant Effects or will be unaffected	improvements to visual appearance of WTGs on the horizon, there would be no change to the findings of the Original EIA and the findings of the Original EIAR remain valid.	some viewpoint locations. However, such effects were found to be localised and in no instances were these effects considered to be unacceptable. Variation 01 resulted in a reduction in WTG number from seven to six and a reduction in WTG footprint area which provided a reduction in extent of the array across the horizon. Under the three WTG design scenarios proposed for this variation there will be no increase in WTG number from Variation 01 and no changes to the WTG footprint area. The proposed variation will result in a slight increase in rotor diameter compared to Variation 01, however, in all three WTG design scenarios proposed, maximum rotor diameter, tip height and hub height remain the same or reduced compared to the Original EIAR. As a result, the potential impacts on seascape, landscape and visual amenity will be the same or reduced compared to those assessed within the Original EIAR. No new impacts are identified as a result of the design refinements and therefore, the findings of the Original EIAR remain valid. To understand the nature of the proposed design refinements on Seascape, Landscape and Visual receptors, a comparison of the proposed design refinements with Variation 01 and the Original EIAR is provided within this report.	this report provides a seascape, landscape and visual amenity comparative assessment and demonstrates that there is no appreciable difference in effects due to the proposed WTG design refinements. Therefore, the proposed parameter changes remain acceptable in terms of SLVIA.
Marine Archaeology and Cultural Heritage	<u>Construction/decommissioning</u> - Loss of or damage to known marine and intertidal historic environment assets	Negligible to Minor Effects	No significant adverse effects were identified	No significant adverse effects were identified on marine archaeology and cultural heritage within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no	No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	- Loss of or damage to unknown marine and intertidal historic environment assets - Loss of or damage to known submerged prehistoric landscapes <u>Operation and maintenance</u> - Loss of or damage to known marine historic environment assets - Loss of or damage to unknown marine historic environment assets - Loss of or damage to known submerged prehistoric landscapes - Long term changes to the setting of onshore historic environment assets that reduces their value	Residual Effect Not Significant	within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result, there will be no change to the potential impacts on marine archaeology and cultural heritage compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIAR and Variation 01 remain valid.	
Other Users of the Marine Environment	<u>Construction-decommissioning</u> - Disturbance of subsea cables - Disruption to DSRL remedial monitoring activities - Interference to the operations of Space Hub Sutherland <u>Operation and maintenance</u> - Disturbance of subsea cables - Obstruction of DSRL remedial monitoring activities - Adverse impacts on telecommunications systems - Interference to the operations of Space Hub Sutherland	Negligible to Minor Effects Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design Refinements</u> No significant adverse effects were identified on other users of the marine environment within the Original EIAR or Variation 01. Under the three WTG design scenarios proposed, there will be no increase in WTG number or the number of substructures, mooring lines, anchors, inter array and export cables, or scour/cable protection required. As a result there will be no change to the potential impacts on other users of the marine environment compared to those assessed within Variation 01 and impacts compared to the Original EIA remain reduced. No new impacts are identified as a result of the WTG design refinements, and therefore the findings of the Original EIAR and Variation 01 remain valid.	No
Socioeconomics, Recreation and Tourism	<u>Construction/operation and maintenance and decommissioning</u>	Negligible to Major Effects (beneficial)	No significant adverse effects were identified	<u>Design Refinements</u> The Original EIAR resulted in the identification of significant beneficial impacts as a result of the	No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required
	- Project activities leading to an effect on employment - Project activities leading to an effect on economic output (GVA) - Project activities leading to an effect on demand for housing, recreation resources and other local services - Project activities leading to an effect on the volume and/or value of tourism	Residual Effect Significant (beneficial) Negligible to Moderate Effects (adverse) Residual Effect Not Significant (adverse)	within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	Project in terms of employment within Caithness and the Highland area. No significant adverse effects were identified. No new impacts or changes of effect were identified through Variation 01. The proposed WTG design refinements will not change construction employment requirements or the construction programme. Therefore, no new impacts are identified as a result of the WTG design refinements proposed and the findings of the Original EIAR and Variation 01 remain valid.	

Climate Change and Carbon	<u>Climate resilience review</u>
	- Direct impacts of climate change during the operation and maintenance phase on the Project
	  ○ Impacts of extreme weather events
	  ○ Impacts from changes in weather patterns or sea conditions
	  ○ Impacts from sea level rise and coastal erosion
	
	<u>In-combination Climate Impact Assessment</u>
	- Inter-related impacts of climate change and the Project on relevant receptors during the operation and maintenance phase
	  ○ Inter-related impacts of extreme weather events
	  ○ Inter-related impacts from changes in weather patterns or sea conditions
	  ○ Inter-related impacts of sea level rise and coastal erosion
	
	<u>Blue Carbon Assessment</u>
		<u>Climate Resilience Review:</u>
		
		No Significant Effects identified
		
		<u>In-combination Climate Impact Assessment:</u>
		
		No Significant Effects Identified
		
		<u>Blue Carbon Assessment:</u>
		
		No Significant Effects Identified
		
		<u>Carbon Assessment:</u>
		
		No Significant Effects Identified
			No significant adverse effects were identified within the Original EIAR.
			
			No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid
				<u>Design Refinements</u>
				WTG number and associated project infrastructure remains reduced as for Variation 01, compared to the Original EIAR. The climate resilience of the Project to external factors will remain as assessed within the Original EIAR and Variation 01. Potential effects on blue carbon habitats also remain reduced. The Project will continue to make a positive contribution to the UK carbon budget, avoiding emissions that would have been associated with more carbon-intensive forms of electricity. The overall generating capacity of the Project is not changing and therefore estimates of generation and offset remain valid.
				No new impacts are identified as a result of the WTG design refinements proposed and therefore, the findings of the Original EIAR and Variation 01 remain valid.
					No

Receptor Topic	Impacts Assessed in Original EIAR	Residual Effect Predicted in Original EIAR	Conclusion Variation 01	Implication of Proposed Additional Design Refinements	Further information required

	- Direct blue carbon habitat loss/disturbance from the place of the Project subsea infrastructure during the lifecycle of the Project
	- Cumulative effects from the Project and other projects resulting in blue carbon habitat loss/disturbance from the placement of subsea infrastructure
	
	<u>Carbon Assessment</u>
	- Impact of the Project on the global climate receptor utilising
	  ○ Calculated carbon life cycle emissions resulting from the Project
	  ○ The UK Carbon budgets as a proxy for the global climate				

Risk of Major Accidents and Disasters	<u>Internal Project Risks</u> - Lightning strikes - Major industrial accidents <u>Internal Project Risks</u> - Electrical systems failure - Marine Hazards - Subsea operations	Broadly Acceptable to Tolerable with Embedded Mitigation Residual Effect Not Significant	No significant adverse effects were identified within the Original EIAR. No new impacts are identified as a result of the design refinements and the findings of the Original EIAR remain valid	<u>Design Refinements</u> Within the Original EIAR and Variation 01 no risks were identified for the Project that could result in a major accident or disaster and no significant effects on receptors were identified, due to embedded mitigation and management plans in place. The proposed WTG parameter refinements will not result in any changes to embedded mitigations or to the risk of a major accident or disaster occurring. Therefore, the findings of the Original EIAR and Variation 01 remain valid.	No

5 Additional Information

The assessment presented in Section 4, considers the potential effects of the proposed WTG design refinements on the environmental topics assessed within the Original EIAR and Variation 01 application. As set out in Table 4.2, due to the nature of the design refinements proposed, the potential impacts on the majority of environmental receptors will remain the same as for Variation 01 and reduced compared to the Original EIAR. No new impacts are identified as a result of the WTG design refinements proposed, and therefore, the findings of the Original EIAR and Variation 01 remain valid.

However, the assessment identifies the requirement for further information in respect of ornithology and seascape, landscape and visual receptors, confirmed through consultation to date. To understand the potential implications of the proposed design refinements for these receptors, further detailed information is provided. The approach to the revised assessments for ornithology is summarised in Section 5.1 below with detailed information provided in Section 6 supported by Appendix 3. The approach to the seascape, landscape and visual receptors is summarised in Section 5.2 below, with detailed information provided in Section 7, supported by Appendix 4.

5.1 Ornithology

No significant adverse effects were identified on marine ornithology within the Original EIAR or Variation 01 application. The proposed design refinements result in a rotor swept area that is smaller than that presented in the Original EIAR and Variation 01 application for WTG design scenarios 2 and 3 and a small increase in rotor swept area for WTG Scenario 1 (0.6% compared to the Original EIAR and 12% compared to Variation 01). Minimum air gap is reduced for all three WTG Scenarios, whilst blade width, rpm and operational time are also reduced, based on specific turbine machines and further analysis of site specific data. The WTG footprint area remains the same in all three WTG design scenarios and no new impacts are identified as a result of the design refinements proposed. To understand the implications of the proposed WTG design refinements on ornithology receptors, revised ornithological modelling is provided in Appendix 3, with a summary provided in Section 6. This confirms that there is no appreciable difference in environmental effects and, therefore, there is no change in significant effects identified.

The Original RIAA for the Project concluded no AEOSI on conservation objectives for designated sites or qualifying features, either alone or in-combination with other plans and projects. However, the AA undertaken for the Project raised concerns with regards to collision risk and displacement effects and potential AEOSI for kittiwake and puffin features of the NCC SPA. In each case concerns were raised by NS and MD-LOT on AEOSI for both kittiwake and puffin related to cumulative impacts arising in-combination with other offshore wind farm developments which have already been consented. No AEOSI was identified resulting from the Project alone.

Variation 01 assessed the potential implications of the proposed design refinements on kittiwake and puffin features of the NCC SPA. Design refinements included a reduction in WTG number from seven to six, a reduction in WTG footprint area from 10 km^2 to 5.85 km^2 and an extension to the operational life of the Project from 10 to 25 years. The additional assessment provided within Variation 01 demonstrated that there would be no AEOSI on conservation objectives for either kittiwake or puffin features of the NCC SPA, as a result of the design refinements proposed.

The HRA process falls outside of the requirements of this report. However, to ensure previous concerns on protected sites are considered, Appendix 3 considers the proposed additional design refinements and the potential implications of these for ornithological features. The addendum focuses on kittiwake features of the NCC SPA which were identified as a concern when considered in-combination with other plans and projects

within the AA for the Original Application. There are no changes proposed to the WTG footprint area and therefore there will be no increase in displacement impacts to any species.

Updated ornithological modelling for kittiwake features of the NCC SPA is provided, and includes updated collision risk modelling (CRM), distributional response modelling and population viability analysis (PVA). While the WTG footprint area remains the same as the consented project, in response to noted conservatism within the Variation 01 AA, and recent empirical evidence of non-avoidance by kittiwake of areas around small offshore wind farms (Pollock et al., 2024), revised distributional response (displacement and barrier effects) modelling has also been undertaken using the SeabORD tool. This revision uses a smaller potential displacement area around the WTG footprint area (the 'Footprint border'), compared to modelling undertaken for Variation 01.

Results of the modelling are provided using both updated CRM alone, and updated CRM and distributional response modelling within PVA. In each case, the results demonstrate that there is no appreciable difference in environmental effects for kittiwake from those which were approved in Variation 01 for the consented project and any change in effect would be so small as to be clearly insubstantial.

5.2 SLVIA

The Original EIAR concluded some significant adverse effects on landscape and coastal character, landscape designations and some viewpoint locations. In each case, effects were found to be localised and in no instances were these effects considered to be unacceptable. Under the three WTG design scenarios the proposed WTG number remains reduced compared to the Original EIAR and the same as currently consented through Variation 01. Maximum rotor diameter, tip height and hub height also remain the same or reduced compared to the Original EIAR. As a result, the potential impacts of the Project on seascape, landscape and visual amenity will be the same or reduced compared to those assessed within the Original EIAR. No new impacts are identified as a result of the design refinements and, therefore, the findings of the Original EIAR remain valid.

To understand the nature of the design refinements proposed and potential implications for Seascape and Landscape receptors, a comparison of the proposed design refinements and the conclusions of the Original EIAR and Variation 01 is provided in Section 7 of this report with further details provided in Appendix 4.

6 Ornithology Modelling Update

6.1 Introduction

This section summarises the potential environmental effects upon kittiwake features of the NCC SPA arising from the proposed additional design refinements to the Project. The proposed WTG design refinements which are relevant to ornithology include:

- Increase in rotor diameter from 1 x WTG with rotor diameter of 220 m and 5 x WTGs with rotor diameter of 250 m, to a maximum of 6 x WTGs with rotor diameter 260 m;
- Reduction in air gap from 35 m to a minimum of 28 m;
- Reduction in blade width from 7 m to a maximum of 6.93 m;
- Reduction in rpm from 8 to a maximum of 6.61; and
- Reduction in operational time from 95% (operational) and 5% (downtime) to 88% (operational) and 12% (downtime).

- In all scenarios there is no change to maximum WTG footprint area.

To consider the effects of the proposed design refinements on kittiwake features of NCC SPA, Natural Power Consultants (NPC) have undertaken ornithological analysis of the proposed WTG design refinements for the three WTG design scenarios proposed and compared the results of these with the assessments presented in Variation 01. Updated ornithological modelling includes updated CRM, distributional response modelling (SeabORD) and PVA.

Full analysis is provided in Appendix 3, with the key findings summarised below. In consideration of the assessments provided and consultation undertaken, the following comments from NS are noted (received 12 August 2025):

- NS agrees that it is appropriate that puffin displacement has not been re-assessed, as there is no change to the footprint between Variation 01 and Variation 02, and the impact on Puffin at NCC SPA is expected to remain unchanged.

- NS note the justification for updated distributional response modelling and while it is acknowledged that this is a reasonable argument, it is noted that there is not a significant enough change in predicted impacts to affect conclusions.

- With regards to the Project alone assessments NS agrees with the conclusions of the Variation 01 report, that the project alone would result in no adverse effect on site integrity for kittiwake as a qualifying interest of NCC SPA, and CPS and CGR values for Variation 02 are not significantly lower than those consented for the Variation 01 application.

- With regards to the in-combination assessment of Variation 02 scenarios, NS states that their conclusions remain the same as for the consented Variation 01 values, i.e. there will be no adverse effect on site integrity of the NCC SPA in respect to kittiwake.

6.1.1 Project Alone

For the Project alone, annual collision impacts for kittiwake apportioned to NCC SPA for Variation 01 was **2.24**. Results for Variation 02 design scenarios are as follows:

- Design Scenario 1: 6 x WTGs with rotor diameter 260 m and air gap of 30 m: Annual collision impacts for kittiwake apportioned to NCC SPA are **2.87 (CI: 1.53 – 4.80).**

- Design Scenario 2: 5 x WTGs with rotor diameter 260 m and air gap of 28 m: Annual collision impacts for kittiwake apportioned to NCC SPA are **2.9 (CI: 1.55 – 4.82).**

- Design Scenario 3: 6 x WTGs with rotor diameter 236 m and air gap of 28 m: Annual collision impacts for kittiwake apportioned to NCC SPA are **2.79 (CI: 1.49 – 4.64).**

For the Project alone, PVA outputs for Variation 01 for kittiwake apportioned to NCC SPA provided a counterfactual of population size **(CPS) of 0.983 (CI: 0.937 – 1.030)** and a counterfactual of population growth rate **(CGR) of 0.999 (CI: 0.997 – 1.000)** over 25 years. PVA results for Variation 02 design scenarios, using updated collision risk modelling, are as follows:

- Design Scenario 1: 6 x WTGs with rotor diameter 260 m and air gap of 30 m: PVA outputs for kittiwake apportioned to NCC SPA provides a **CPS of 0.982 (CI: 0.936 – 1.033)** and a CGR of **0.999 (CI: 0.998 – 1.001)**.

- Design Scenario 2: 5 x WTGs with rotor diameter 260 m and air gap of 28 m: PVA outputs for kittiwake apportioned to NCC SPA provides a **CPS of 0.982 (CI: 0.936 – 1.033)** and a CGR of **0.999 (CI: 0.998 – 1.001)**.

- Design Scenario 3: 6 x WTGs with rotor diameter 236 m and air gap of 28 m: PVA outputs for kittiwake apportioned to NCC SPA provides a **CPS of 0.982 (CI: 0.935 – 1.033)** and a CGR of **0.999 (CI: 0.998 – 1.001)**.

Such differences in population predictions between Variation 01 and each of the design scenarios for Variation 02 would not be measurable against background levels of variability within the kittiwake population of NCC SPA.

When updated distributional response modelling (SeabORD) is considered alongside updated CRM, to account for precautionality within the assessments, PVA demonstrates a reduction in population level impacts for Variation 02 compared to Variation 01, over 25 years, for all design scenarios proposed:

- Design Scenario 1: 6 x WTGs with rotor diameter 260 m and air gap of 30 m: PVA outputs for kittiwake apportioned to NCC SPA provides a **CPS of 0.992 (CI: 0.946 – 1.043)** and a CGR of **1.000 (CI: 0.998 – 1.001)**.

- Design Scenario 2: 5 x WTGs with rotor diameter 260 m and air gap of 28 m: PVA outputs for kittiwake apportioned to NCC SPA provides a **CPS of 0.993 (CI: 0.944 – 1.044)** and a CGR of **1.000 (CI: 0.998 – 1.001)**.

- Design Scenario 3: 6 x WTGs with rotor diameter 236 m and air gap of 28 m: PVA outputs for kittiwake apportioned to NCC SPA provides a **CPS of 0.993 (CI: 0.945 – 1.042)** and a CGR of **1.000 (CI: 0.998 – 1.001)**.

As for Variation 01, the above CPS values should be considered in light of the precaution that is included within the assessments including:

- More recent counts of the NCC SPA kittiwake population (2023) are notably larger than those considered in relation to the consented Variation 01 application (which utilised count data from 2015 and 2016). In 2015/16 the NCC SPA population of breeding kittiwake was estimated to be 5,571 Apparently Occupied Nests (AON) (Burnell *et al.,* 2023), compared to the comparable figure of approximately 8,197 AON. The most important potential consequence of this updated colony count data in relation to Variation 02 Design Scenarios is associated with how PVA outputs are interpreted. Previously (for Variation 01), the kittiwake population of NCC SPA was viewed as rapidly declining, and this trend is likely to have weighed heavily in considerations as to whether predicted PVA output values would equate to potential AEOSI for that population. The rationale for this being that, where a population is declining, smaller levels of additional mortality would be required to compromise the conservation objectives regarding that feature of the SPA. Conversely, where a population is increasing, it follows that larger effects to the population would be required to compromise this conservation objective. Consequently, when the kittiwake population of NCC SPA is viewed as increasing instead of decreasing (or at least decreasing much more slowly than previously thought), it follows that lower (i.e. less precautionary) PVA output values may be used to support decisions of no AEOSI.

- Post construction monitoring of Beatrice wind farm found no evidence of distributional responses by kittiwake (Trinder, 2023), although some flight height response was detected. Similarly, tracking studies of breeding kittiwake from the Buchan Ness to Collieston Coast SPA found no evidence of avoidance with buffer areas surrounding several small operational offshore wind farm projects off the

Aberdeenshire coast (Pollock *et al.,* 2024). This evidence suggests that displacement impacts for this species are much smaller than modelling outputs and this is mirrored in sentiment expressed within the Appropriate Assessment for Variation 01 where Scottish Ministers highlighted that aspects of displacement assessment '…could be overly precautionary'.

6.1.2 In-combination

When considering the Project in-combination with other wind farm projects, for Variation 01, Scenario 4d (including PFOWF in addition to sites in the Moray Firth and selected other North Sea projects, but not Berwick Bank OWF) was agreed by NatureScot and the Scottish Ministers to be the most appropriate combination of developments for inclusion within in-combination assessment. With regard to in-combination Scenario 4d, for Variation 02, there is no appreciable difference to the Project alone effects identified for kittiwake features at NCC SPA compared with Variation 01.

When using updated CRM outputs, PVA demonstrates a maximum decrease in CPS of 0.001 over 25 years (**0.908** for all Variation 02 Design Scenarios compared to **0.909** for Variation 01), while CGR values remain unchanged (**0.996**)[2]. When using updated CRM and SeabORD outputs PVA demonstrates a minimum increase in CPS of 0.009 (from 0.909 for Variation 01 to 0.918 for all Variation 02 Design Scenarios), while CGR increases from 0.996 for Variation 01 to 0.997 for all Variation 02 Design Scenarios[3].

The above values indicate that there is no appreciable difference to Project alone impacts due to the design refinements proposed, and any increase in impacts will be so small as to be insubstantial. Therefore, the conclusions of any in-combination assessment will be unchanged from that presented in Variation 01 for the consented project.

For completeness, it is noted that several offshore wind farm projects with potential connectivity to the kittiwake population of NCC SPA have submitted consent applications since the submission of Variation 01. Those projects have, in accordance with the appropriate HRA process, considered either the Variation 01 or original consented designs (the latter, although superseded, is more conservative than the former) within their in-combination assessments. Consequently, the insubstantial changes to Variation 01 project alone impacts resultant from the design refinements proposed will not appreciably alter the conclusions of assessments submitted subsequent to Variation 01. Those projects that have submitted consent applications since the submission of Variation 01 (up to a period of two months prior to the submission date of this Variation 02 application, as confirmed by MD-LOT in their letter of 21 October 2025) are:

- Outer Dowsing Offshore Wind Farm
- Salamander Offshore Wind Farm (consented 21 August 2025)
- Ossian Offshore Wind Farm
- Caledonia Offshore Wind Farm

[2] 95% Confidence Intervals were similarly comparable. Var 01: CPS CI = 0.863 – 0.955, CGR CI = 0.994 – 0.998; Var 02 DS 1: CPS CI = 0.865 – 0.955, CGR CI = 0.995 – 0.998; Var 02 DS 2: CPS CI = 0.865 – 0.955, CGR CI = 0.995 – 0.998; Var 02 DS 3: CPS CI = 0.863 – 0.956, CGR CI = 0.995 – 0.998.

[3] 95% Confidence Intervals were similarly comparable. Var 01: CPS CI = 0.863 – 0.955, CGR CI = 0.994 – 0.998; Var 02 DS 1: CPS CI = 0.873 – 0.963, CGR CI = 0.995 – 0.998; Var 02 DS 2: CPS CI = 0.872 – 0.965, CGR CI = 0.995 – 0.998; Var 02 DS 3: CPS CI = 0.873 – 0.966, CGR CI = 0.995 – 0.998.

- Muir Mhòr Offshore Wind Farm
- Cenos Floating Offshore Wind farm
- West of Orkney Wind Farm (consented 27 June 2025)
- Buchan Offshore Wind Farm
- Aspen Offshore Wind Farm
- Ayre Offshore Wind Farm

Additionally, Berwick Bank OWF, for which application documents were submitted prior to Variation 01, has also recently received consent (31 July 2025). This consent is conditional upon the agreement of a derogation case which will include measures to compensate identified impacts resultant in AEOSI to the kittiwake feature of NCC SPA. Therefore, in accordance with recent NS recommendations, where compensated impacts are not included within in-combination assessment impact totals, it is assumed that Berwick Bank will not contribute to in-combination impacts for assessments relating to the kittiwake feature of NCC SPA. As such, consideration of Scenario 4d (i.e. without inclusion of Berwick Bank OWF) remains the most appropriate option for in-combination assessment.

It is also noted that the progression of Hornsea 4 OWF which was previously included as a component of in-combination Scenario 4d for Variation 01, has recently ceased (May 2025), and this project will not progress in its present form. Hornsea 4 OWF was estimated to contribute a total of 0.84 breeding adult kittiwake mortalities to the NCC SPA population per annum. Impacts associated with Hornsea 4 OWF remain within Scenario 4d in relation to in-combination assessment for Variation 02, introducing an additional degree of conservatism to the outcomes of those assessments.

Since the submission of Variation 01, it is also noted that the Dogger Bank South Offshore Wind Farms, DBS East and DBS West, have, submitted a development consent order application to the Secretary of State which details the apportioning of a total of 1.8 breeding adult kittiwakes to NCC SPA. This application does not, however, include an in-combination assessment for impacts to kittiwake at NCC SPA (as it follows the assessment approach preferred by Natural England, given they are the primary SNCB for that project). Should these projects subsequently submit additional information in this regard, it is assumed that the Project would be considered within their in-combination assessment for impacts to kittiwake at NCC SPA.

It is also noted that Culzean Floating Pilot Project has submitted a Marine Licence variation to its consented design since the submission of Variation 01. Although this project has potential connectivity to the kittiwake population of NCC SPA, the Project comprises a single turbine and, therefore, total impacts to kittiwake are extremely small (<0.1 individuals per annum), and considerations of in-combination effects have not been required for this project.

Furthermore, a number of wind farm projects with potential connectivity to the kittiwake population of NCC SPA have submitted scoping documents since the submission of Variation 01. Should those projects submit consent applications, they will be required, in accordance with appropriate HRA process, to consider the PFOWF within their in-combination assessments. Consequently, the insubstantial changes to Project-only impacts resultant from the design refinements proposed will not appreciably alter the conclusions of future assessments.

Finally, where consent applications submitted after the submission of Variation 01 attribute non-negligible impacts to the kittiwake population of NCC SPA, it is assumed that those projects would be required to compensate for those impacts. Consequently, and in accordance with recent NS recommendations where compensated impacts are not included within in-combination assessment impact totals, it is assumed that those projects would not contribute to in-combination assessments relating to the kittiwake receptor of NCC SPA.

In conclusion, the proposed Project design refinements for Variation 02 and the reassessment of impacts for kittiwake features of the NCC SPA demonstrates that there is no appreciable difference in the level of effects identified from that which was accepted for Variation 01, and that any increase in impact will be so small as to be insubstantial. As for Variation 01, this supports a conclusion of no AEOSI for the NCC SPA.

7 SLVIA Comparison

7.1 Introduction

This section describes the key sensitivities and potential environmental effects upon seascape, landscape and visual receptors arising from the proposed additional design refinements to the Project. The proposed WTG design refinements which are relevant to SLVIA include:

- Increase in rotor diameter from 1 x WTG with rotor diameter of 220 m and 5 x WTGs with rotor diameter of 250 m to a maximum of 6 x WTGs with rotor diameter 260 m;
- In all scenarios the maximum hub height and tip height remain the same as the Original Application and current s36 consent (as varied) (maximum hub height 190 m and maximum tip height 300 m).
- In all scenarios there is no change to the maximum WTG footprint area.

To consider the implications of the proposed design refinements on SLVIA, SLR Consulting have undertaken a comparison of the proposed WTG design refinements with the Variation 01 application and the Original EIAR. SLR acquired OPEN in 2024 and therefore assessment methodologies remain the same as those for Variation 01 and the Original EIAR. Comparative wirelines have also been developed to illustrate the differences in appearance between the Original Application, the current consent (incorporating Variation 01) and the proposed Variation 02.

It should be noted the parameters essentially present a return to the parameters assessed within the Original EIAR, albeit with six turbines, as currently consented, instead of the seven included in the Original EIAR and original s36 Consent. With respect to SLVIA, the effects of the original project parameters were considered to be acceptable.

The full comparison, including wirelines, is included in Appendix 4, with the key findings summarised below. In consideration of the assessments provided and consultation undertaken, the following comment from NS is noted (received 12 August 2025):

- Having reviewed the supporting information for the proposed development, NS does not consider that it would raise issues of National Interest in relation to its landscape, visual or cumulative effects. This is not to say that the development would not result in significant landscape or visual effects, rather that NatureScot does not judge these effects to meet our threshold in respect of our national remit for landscapes.

7.2 Conclusions

7.2.1 Project-alone Effects

The consented project (Variation 01) and the proposed Variation 02 comprise the same number of WTGs located in the same positions, and therefore, the focus of the comparative assessment is the incremental difference between the dimensions of the WTGs. A detailed comparative assessment of the consented project and Variation 02 is presented in Appendix 4, Table B, with conclusions summarised below.

The smaller dimensions of the one smaller WTG in the consented project make it appear further away. While the increases in dimensions for Variation 02 for this WTG are more notable, these simply make the WTG appear the same size as the other WTGs and more part of the group than appearing more distant. This change, therefore, has a positive rather than a negative effect on the appearance of the WTGs, by increasing consistency between the WTGs. Comparative wirelines show the very limited difference that the potential incremental height increase of the WTGs would have, for all WTGs, and the findings of the comparative assessment are that these differences would not be sufficient to alter the rating of magnitude of change or change a not significant effect into a significant effect. This conclusion is consistent with the Variation 01 application which stated that, conversely, the incremental reduction in height would not alter the rating of magnitude of change or change a significant effect into a not significant effect.

The Variation 01 application presented a layout in which the WTGs were notably more compact than presented in the Original EIAR. As the Variation 02 WTGs are in the same locations as the WTGs for the consented project, the improvements of the reduced footprint are carried over into Variation 02 compared to the Original EIAR.

The other factor considered in the comparative assessment is the additional baseline influence from the Limekiln Wind Farm and Extension. This affects the assessment from viewpoints in which Limekiln Wind Farm and Extension have a notable close-range effect, establishing a context in which the influence of the more distant Project would be moderated.

7.2.2 Cumulative Effects

The cumulative assessment presented in this report provides a comparison with the assessment presented in respect of the Original EIAR and information that has been collected to present the current cumulative context in the Study Area (the associated 50 km around the Array Area), as defined for the Original Application and the Consented Project (Variation 01). A reassessment of the cumulative effects was not undertaken as part of the Variation 01 application, as there were no notable changes to the cumulative baseline at the time of application which would have notably altered the cumulative assessment.

The methodology for the comparative cumulative assessment follows the methodology set out in the SLVIA of the Original EIAR. All operational and under construction wind farms have been included as part of the baseline situation. The cumulative effect of the Project in conjunction with the operational and under construction wind farms and other large-scale energy developments is also considered as part of the baseline in relation to the following cumulative scenarios.

- Cumulative Scenario 1 assesses the effects of adding the Project to a cumulative situation comprising all operational, under construction and **consented** wind farms and other large-scale energy developments.
- Cumulative Scenario 2 assesses the effects of adding the Project to a cumulative situation comprising all operational, under construction, consented and **application** wind farms and other large-scale energy developments.
- Cumulative Scenario 3 assesses the effects of adding the Project to a cumulative situation comprising all operational, under construction, consented, application and **scoping stage** wind farms and other large-scale energy developments.

The most notable changes to the cumulative context at Scenario 1 are the changes in status of Limekiln Wind Farm from consented to operational and Limekiln Extension from application to operational. Strathy Wood and Strathy South have changed in status from consented to under construction The change in status from scoping to consented of the Betty Hill Extension/Phase 2 will have an influence further west. To the east the single turbine of Forss III has changed in status from consented to under construction, immediately adjacent to the

consented Hill of Lybster and the operational Forss turbines. To the south-east Achlachan 2 has changed from application stage to consented, but is immediately adjacent to the Achlachan operational turbines so will have little additional influence at >30 km range. Further to the south-east the Golticlay Variation wind farm was consented and is now under construction, however, its location over 40 km from the Project means it will have a limited contribution to the cumulative context. Offshore, the change in status of the West of Orkney Wind Farm is the most notable cumulative influence in this Scenario.

In Scenario 2 there has been some alteration to the onshore cumulative wind farm context with the removal of Drum Hollistan from the planning system and applications made for Melvich (reduced to four turbines) and Kirkton Energy Park (at appeal) to the west of the A897, south of Melvich Bay. The scoping stage Cairnmore Hill Resubmission also came forward as an application and is now at appeal. Other more distant wind farm additions have lesser influence on the cumulative context for the Project. Scenario 3 also considers the addition of Ackron Resubmission (currently at scoping stage) as part of the cumulative context due to its proximity to the Consented Project and coastline.

A detailed comparative assessment of Variation 02 and the Original EIAR is presented in Appendix 4, Table C, with conclusions summarised below.

Essentially the Project will be added into a cumulative context in which onshore wind farm development already has an influence and in which offshore wind farm development will also have an influence in Scenarios 1, 2 and 3. This baseline influence generally moderates the additional influence of the Project, particularly as it comprises a very small number of WTGs, for example, compared to the much larger West of Orkney Wind Farm.

Although the status of some of the cumulative projects have changed and some projects have been removed from or added to, the planning system, the findings of the cumulative comparative assessment remain generally consistent with the SLVIA for the Original EIAR with only changes in the assessment of magnitude of change and no changes to the significance of effect. This is owing to a similar context in which the offshore cumulative context is defined by the West of Orkney Wind Farm, albeit changed in status from scoping to consented; and the onshore context is defined by a combination of Limekiln and Extension, Baillie Hill and Forss (including Forss III), all of which have a presence and influence along the north coast of Caithness and Sutherland.

This is with the exception of the assessments for Viewpoint 1 Beinn Ratha, Viewpoint 2 Strathy Point Car Park and Viewpoint 3: Portskerra/Melvich where primarily the change in status of the Limekiln and Limekiln Extension onshore wind farms and the West of Orkney Wind Farm do result in some instances of change to the cumulative assessment. In the Scenario 1 assessment for Viewpoints 2 and 3 the magnitude of change is increased to medium resulting in a significant (moderate) effect. The cumulative magnitude of change in Scenario 2 is now assessed as medium for Viewpoints 1 and 2 resulting in moderate significant cumulative effects, which also largely occur as a result in the change in status of the West of Orkney Wind Farm.

It is important to note that these are not new or additional effects of the Project, as such effects were assessed for the Original EIAR when it was assessed in the cumulative context of West of Orkney Wind Farm in Scenario 3. Such effects were considered acceptable in the consenting of the Project, which had a larger footprint (and horizontal field of view) than Variation 02.

Furthermore, and in line with EIA requirements, any subsequent proposals for onshore or offshore wind farms within the study area will have to consider the cumulative effect with the Project. This was the case for the West of Orkney Wind Farm, which is now consented and which considered the Project within its cumulative assessment (including the additional information submitted in October 2024). For this assessment the design parameters from the Original EIAR were used, i.e. seven WTGs up to 300 m tip height, over a larger

geographical extent, which provides a more precautionary assessment, compared to Variation 02 which proposes a maximum of six WTGs.

8 Conclusion

HWL is seeking to vary the existing s36 Consent (as varied) and associated wind farm marine licence for the Project to consent the following project parameters:

- Six floating offshore WTGs with:
    - A maximum hub height of 190 m above highest astronomical tide (HAT),
    - A maximum height to blade tip of 300 m above HAT,
    - A maximum rotor diameter of 260 m and,
    - A minimum blade tip clearance from mean sea level (MSL) of 28 m, save where six WTGs with a rotor diameter over 236 m are constructed, when it must be a minimum of 30 m.
- Six associated floating substructures;
- Nine mooring lines for each floating substructure, 54 in total;
- Nine anchors or piles for each floating substructure, 54 in total;
- Seven inter-array cables (dynamic and static); and
- Associated cable and scour protections.

Additional WTG design refinements include a reduction in blade width, rpm and operational time, as presented within this report.

This report has been submitted in support of an application to vary the s36 Consent under Section 36C of the Electricity Act 1989. It has provided an overview of the potential environmental effects of the updated project design by comparison with the consented project design as presented in Variation 01 and the Original EIAR.

The information presented in this report demonstrates that there will be no appreciable difference in environmental effects from the proposed WTG refinements for Variation 02, to those assessed in the Variation 01 application, submitted in October 2023 and the Original EIAR, submitted in August 2022. There will be no additional or greater significant effects from this proposed variation, than those previously assessed, and any change in effect will be so small as to be insubstantial. Therefore, the proposed variation does not constitute an EIA development and an EIA is not required.

Furthermore, with consideration of the Original RIAA for the Project and the addendum provided with Variation 01, the information provided with this report demonstrates that there would be no appreciable difference in Project effects for kittiwake features of the NCC SPA as a result of the design refinements proposed and, as for the consented project, this supports an assessment of no AEOSI.

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Appendix 1 – Draft Revised S36 Consent

MD.MarineRenewables@gov.scot

Scottish Government
Riaghaltas na h-Alba
gov.scot

Mr Richard Copeland
Highland Wind Limited
4th Floor,
115 George Street,
Edinburgh,
EH2 4JN

3 April 2024

Dear Mr Copeland,

APPLICATION UNDER SECTION 36C OF THE ELECTRICITY ACT 1989 TO VARY THE CONSENT GRANTED UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 ON 28 JUNE 2023 TO CONSTRUCT AND OPERATE THE PENTLAND FLOATING OFFSHORE WIND FARM, APPROXIMATELY 7.5 KILOMETRES ("KM") FROM THE COAST OF DOUNREAY, CAITHNESS.

I refer to the application to vary the consent for the Pentland Floating Offshore Wind Farm ("the Development"). This application ("the Variation Application") was made by Highland Wind Limited ("the Company") on 11 October 2023 for:

> A variation under section 36C of the Electricity Act 1989 ("the Electricity Act") to the consent granted under section 36 ("s.36") of the Electricity Act on 28 June 2023 ("the Existing Consent") for the construction and operation of the Development located approximately 7.5 km from the coast of Dounreay, Caithness.

This letter contains the Scottish Ministers' decision to vary the Existing Consent.

1 Nature of the Variation Sought

1.1 The Variation Application seeks to vary Annex 1 of the Existing Consent granted on the 28 June 2023 to allow the following:

- Reduce the number of Wind Turbine Generators ("WTGs") from seven to six;
- Reduce the WTG footprint area from 10 square kilometres ("km^2") to 5.85 km^2. This comprises the area of sea surface occupied by the WTGs and associated floating substructure, excluding the mooring lines;
- Reduce the rotor swept area from 316,673 square metres ("m^2") to 283,448 m^2. This comprises the installation of one WTG with rotor diameter up to 220 m and five WTGs with rotor diameter up to 250 m;
- Reduce the number of floating substructures from seven to six;
- Reduce the number of mooring lines from 63 to 54;
- Reduce the number of anchors or piles from 63 to 54; and,
- Extend the operational life of the Development from 10 to 25 years;

1.2 In addition to the Variation Application, a request was made to vary the generating station marine licence and the offshore transmission works marine licence. This request was made

to align the refinements proposed in the Variation Application within the associated marine licences and to amend several licence conditions across both licences. This has been considered separately under the Marine (Scotland) Act 2010 ("the 2010 Act").

2 Environmental Impacts

2.1 The Scottish Ministers are satisfied that the Variation Application will not have significant effects on the environment.

2.2 The Scottish Ministers have considered the following:

- Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 ("the 1994 Habitats Regulations") (in respect of the associated marine licence variation applications),
- Regulation 63 of the Conservation of Habitats and Species Regulations 2017 ("the 2017 Habitats Regulations"),
- the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ("the 2017 EW Regulations"), and
- the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ("the 2017 MW Regulations") (in respect of the associated marine licence variation applications).

2.3 The Scottish Ministers do not consider that the proposed changes within the Variation Application will alter the conclusions of the Environmental Impact Assessment Report supporting the application for s.36 consent in August 2022 ("the Original Application"). In accordance with the requirements set out in the 2017 EW Regulations and the 2017 MW Regulations, the Scottish Ministers did not deem it necessary for a new Environmental Impact Assessment report to be submitted in support of the Variation Application.

2.4 An appropriate assessment ("AA") under the 1994 Habitats Regulations and the 2017 Habitats Regulations ("the Habitats Regulations") was completed in June 2023 in respect of the application for the Existing Consent ("the 2023 AA"). The Scottish Ministers have reviewed the 2023 AA and have carried out a new AA ("the 2024 AA") under the Habitats Regulations with regards to the Variation Application given the Variation Application seeks to extend the operational life of the Development from 10 to 25 years. The 2024 AA concludes that the Variation Application will not result in an adverse effect on site integrity ("AESI") on any European site (either alone or in-combination with other plans or projects).

3 Consultation

3.1 Regulation 4 of the Electricity Generating Stations (Applications for Variation of Consent) (Scotland) Regulations 2023 ("the Variation Regulations") provides that an applicant must publish a variation application relating to an offshore generating station on a website, serve a copy of the variation application on the planning authority, and also advertise the application by public notices in specified publications.

3.2 In line with Regulation 4, the Company served notice of the Variation Application on the Highland Council. The Company published the Variation Application documentation on its website, public notices were placed in the John O' Groats Journal for two successive weeks and for one week each in the Edinburgh Gazette, the Scotsman, Lloyds List and Fishing News Bulletin.

3.3 Marine Directorate - Licensing Operations Team ("MD-LOT") on behalf of the Scottish Ministers, consulted a wide range of relevant organisations on the Variation Application including: the Highland Council, NatureScot, Maritime Coastguard Agency ("MCA"), Northern Lighthouse Board ("NLB"), Scottish Environment Protection Agency ("SEPA") and Historic Environment Scotland ("HES") and placed the Variation Application documentation on the Marine Scotland Information website alongside the Existing Consent.

3.4 A summary of the representations is provided below, including consideration of the public representation objecting to the Variation Application received by MD-LOT. Several organisations did not provide a response. In the case of no response, MD-LOT notified the relevant consultees that "nil response" would be assumed.

The following consultees raised no objections to the Variation Application.

3.5 Aberdeen and Glasgow Airports

Aberdeen and Glasgow Airports had no comment to make on the Variation Application.

3.6 Chamber of Shipping

The Chamber of Shipping had no objection to the Variation Application.

3.7 Department of Agriculture, Environment and Rural Affairs ("DAERA")

DAERA submitted a nil response to the Variation Application.

3.8 Food Standards Scotland

Food Standards Scotland commented that it is the responsibility of the operator to comply with environmental legislation to mitigate any potential impact on species and or fisheries products present in the surrounding area of the Development.

Food Standards Scotland reiterated previous advice that the Company should follow relevant guidance notes and regulations to mitigate any unacceptable effects on the human food chain from the emissions from this installation.

3.9 Highlands and Islands Airports Limited ("HIAL")

HIAL commented that its advice on the Existing Consent remained the same. Provided that the Company has an approved Construction Strategy Plan HIAL has no objection. A condition is attached to the Existing Consent requiring the Company to submit a Construction Method Statement to Scottish Ministers for its approval prior to the commencement of the Development which the Scottish Ministers consider serves this purpose.

3.10 Historic Environment Scotland ("HES")

HES confirmed the Variation Application will not have significant impacts on heritage assets within its remit and that it had no comments to make.

3.11 Inshore Fisheries Groups ("IFGs") – North and East Coast Regional Inshore Fisheries

IFGs – North and East Coast Regional Inshore Fisheries Group had no comments to make on the Variation Application.

3.12 Joint Radio Company

Joint Radio Company confirmed the Development is cleared with respect to radio link infrastructure operated by the local energy networks. Joint Radio Company notes that should any details of the Development change, particularly the disposition or scale of any WTGs, it will be necessary to re-evaluate the Development.

3.13 MCA

The MCA had no objection to the Variation Application on the basis that all maritime safety legislation is followed, and the Existing Consent conditions are adhered to.

3.14 National Air Traffic Services ("NATS")

NATS had no objection to the Variation Application.

3.15 NatureScot

NatureScot largely agreed with the conclusions in the Report to Inform the Appropriate Assessment Addendum ("RIAA Addendum"). In its review of the Population Viability Analysis ("PVA") modelling provided for displacement and collision effects on puffin as a qualifying interest of the North Caithness Cliffs Special Protection Area ("SPA") over a 25 year operational period, NatureScot advised, that in its view, there would be no AESI from the project alone or in combination with Moray Firth wind farms. In its review of the PVA modelling provided for displacement and collision effects on kittiwake as a qualifying interest of the North Caithness Cliffs SPA over a 25 year operational period, NatureScot disagreed with the conclusions of the RIAA Addendum. NatureScot advised, that in its view, there was the potential for AESI from the project in combination with North Sea wind farms and Moray Firth wind farms. Additionally, NatureScot advised, that in its view, there would be AESI for the project in-combination scenarios with Berwick Bank Wind Farm ("Berwick Bank") if Berwick Bank is consented.

The Scottish Ministers note that a determination has not yet been made on the Berwick Bank consent applications. However, the Berwick Bank Appropriate Assessment ("AA") has concluded that it will have an AESI of a number of qualifying interests of SPAs, including kittiwake of the North Caithness Cliffs SPA. Berwick Bank can therefore only be consented if a derogation case is agreed by Scottish Ministers. This would include sufficient compensatory measures to offset its impacts on those species/sites where AESI cannot be ruled out. Consequently, should Berwick Bank be consented, the impacts from Berwick Bank on these species/sites will be compensated for and therefore in respect of these species/sites, the Scottish Ministers have taken the view not to include these in the in-combination assessment of the 2024 AA undertaken in respect of the Variation Application.

The 2024 AA considers the Variation Application, RIAA Addendum and consultee representations in particular those of NatureScot and RSPB Scotland. The 2024 AA considers site conservation objectives, the populations at the site, the predicted levels of impact and population consequences of the predicted effects. It also considers areas of

uncertainty and precaution in the assessment within the Variation Application. In particular those derived from the seabORD analysis, which it is concluded represent an over-estimation of displacement effects and the substantial reduction in the number of turbines to be constructed at five English windfarms compared to the number assessed in the Variation Application. Both of which will likely lead to a reduction in collision mortality. The 2024 AA conclusions also consider the implications of the outbreaks of Highly Pathogenic Avian Influenza in wild birds since 2021.

The 2024 AA concluded that there was sufficient evidence in respect of the over-estimation of effects to conclude that the Development would not adversely affect the site integrity of any Special Area of Conservation or SPA either in isolation or in combination with other projects. In reaching its conclusions, considerable weight was given to the NatureScot advice. Divergence from the advice is limited to differing conclusions in relation to site integrity for kittiwake at North Caithness Cliffs SPA in combination with North Sea wind farms and Moray Firth wind farms. In reaching a different conclusion, the 2024 AA considered that assessing the level of adverse impact to the site integrity of the North Caithness Cliffs SPA requires is a subjective opinion to be formed after considering the assumptions used in compiling the data. The 2024 AA has taken account of the entire context of the assessment, in particular some of its precautionary assumptions, which make it unlikely that the number of kittiwake mortalities will be as large as the values presented in the assessment within the Variation Application.

Regarding the Seascape, Landscape and Visual Impact Assessment ("SLVIA"), NatureScot noted the Variation Application presents a reduction in impacts of the appearance of the project when compared to the Existing Consent. NatureScot does not consider there to be any adverse significant effects on nationally important landscape interests.

The Scottish Ministers are content that the concerns raised by NatureScot have been properly considered and do not prevent the Variation Application being approved.

3.16 NLB

The NLB had no objection to the Variation Application.

3.17 Orkney Harbours

Orkney Harbours submitted a nil response to the Variation Application.

3.18 Orkney Islands Council

Orkney Islands Council submitted a nil response to the Variation Application.

3.19 Royal Yachting Association ("RYA") Scotland

RYA Scotland had no comments to make on the Variation Application.

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

RSPB Scotland advised that it had not had the capacity to review the modelling in detail and had not inspected inputs and other parameters. Focussing its advice on the outputs, RSPB Scotland advised that the Development in combination with the Moray Firth and North Sea wind farms, including Berwick Bank would result in a greater impact to the

kittiwake qualifying interest of the North Caithness Cliffs SPA than the Existing Consent and that in its view, this would constitute AESI. RSPB Scotland did not provide a specific view on the impact of the Development in isolation, or for any of the other in combination scenarios discussed in the RIAA Addendum. In relation to the puffin qualifying interest, RSPB Scotland noted that in comparison to the Existing Consent, the Development would be beneficial, resulting in a lower impact.

The Scottish Ministers highlight that the 2024 AA undertaken in respect of the Variation Application concludes no AESI on any European site (either alone or in-combination with other plans or projects) and refer to paragraph 4.11 of this decision notice for further narrative.

The Scottish Ministers are content that the concerns raised by RSPB Scotland have been properly considered and do not prevent the Variation Application being approved.

3.21 Scottish Canoe Association

Scottish Canoe Association had no comments to make on the Variation Application.

3.22 Scottish Fishermen's Federation ("SFF")

SFF submitted a nil response to the Variation Application.

3.23 Scottish Water

Scottish Water had no objections to the Variation Application.

3.24 Scrabster Harbour

Scrabster Harbour had no comments to make on the Variation Application.

3.25 SEPA

SEPA noted the Existing Consent condition regarding the requirement to submit a Particle Management Plan. SEPA did not provide any further site specific advice but highlighted its standing advice. The Scottish Ministers consider that the relevant points from the standing advice on marine non-native species, good working practices, pollution prevention, the conservation of water bodies and decommissioning are covered by the Existing Consent.

3.26 The Highland Council

The Highland Council had no objection to the Variation Application.

Public Representations.

3.27 A member of the public submitted a holding objection to the Variation Application (both a personal letter and a letter from their consultant). It was noted that the individual's property interests will likely be adversely affected, and that the individual has a wider interest in protecting the unique environment of Caithness. The representation noted that this objection should be read alongside the objection they submitted in respect of the Existing Consent, and raised a number of concerns, including in relation to the change to the operational period of the Development; assessment of onshore infrastructure;

consideration of significant grid connections and transmission; consideration of the proposed West of Orkney offshore wind farm ("WOOWF"); sustainability of the Development; the needs case for the Development; marine ecology concerns; visual effects and comparative wirelines provided; and consideration of the Highland Wide Development Plan and National Planning Framework 4 ("NPF4"). The public representation concluded that it considered that the Company has failed to meet requirements in the Electricity Act in respect of adequate mitigation and that the Variation Application is not in accordance with the Highland Wide Development Plan, particularly in respect of NPF4.

The Company provided representation on the above objection noting that potential impacts of the Variation Application have an equal or reduced effect on environmental receptors when compared to the application for the Existing Consent. It noted that onshore aspects are not considered within the Variation Application as no design changes are proposed to the onshore works, or to the operational life proposed for onshore infrastructure and that the potential impacts from the 'whole project' were assessed within the Original Application, including the Environmental Impact Assessment Report. With regards to WOOWF, the Company noted that this was not included in quantitative assessments as this was beyond the cut-off date agreed with MD-LOT and NatureScot with information unavailable to input into modelling assessments at this time. The Company highlighted that as impacts are now reduced compared to the application for the Existing Consent, the WOOWF assessment will be worst case in terms of including the Development in its cumulative assessment. With regards to sustainability of and need for the Development, the Company referred to the Planning and Policy Statement and Climate Change and Carbon Assessment provided in support of the Original Application, noting that the proposed increase in the operational period of the Development would increase carbon savings. With regards to visual effects, the Company noted that the wirelines were produced in line with relevant guidance and that NatureScot had confirmed in its representation that the Variation Application presents a reduction in impacts of the appearance of the Development when compared to the consented project and there will not be any adverse significant effects on nationally important landscape interests.

3.28 The Scottish Ministers have considered the above alongside representations received from other stakeholders, including NatureScot and the Highland Council. The Scottish Ministers have reviewed their considerations of NPF4 in respect of the Existing Consent and consider that these continue to apply to the Variation Application. The Scottish Ministers are content that the objection raised by the public representation has been addressed, that the Variation Application is compliant with the relevant legislation and that the concerns raised would not prevent the Variation Application being approved.

Advice from Third Parties

3.29 Transport Scotland – Roads

Transport Scotland – Roads had no objection to the Variation Application.

4 The Scottish Ministers' Determination

4.1 The Scottish Ministers have considered the Variation Application documentation, all responses from consultees and public representations, and advice from Transport Scotland. Having granted consent (the Existing Consent) for the Development on 28 June 2023 and provided their reasons for doing so in the decision letter associated with that consent and being satisfied that the changes proposed in the Variation Application do not fundamentally alter the nature or scale of the Development, the Scottish Ministers are content to vary the Existing Consent.

4.2 The Scottish Ministers consider that the proposed variation is appropriate, having regard to the variation proposed, the reasons for the variation and the views of the consultees.

4.3 Accordingly, the Scottish Ministers hereby vary the Existing Consent as set out in the table below.

Annex	**Variation**
In Annex 1 of the Pentland Floating Offshore Wind Farm s.36 Consent	**For:** **DESCRIPTION OF THE DEVELOPMENT** The Application is for the construction and operation of an offshore energy generating station, with a generating capacity of around 100 megawatts ("MW"). The offshore generating station shall be comprised of up to: 1. Seven floating offshore wind turbine generators ("WTGs") with: a. A maximum hub height of 190 metres ("m") above highest astronomical tide ("HAT"); b. A maximum height to blade tip of 300m above HAT; c. A maximum rotor diameter of 260m; d. A minimum blade tip clearance from mean sea level of 35m; 2. Seven associated floating substructures; 3. Nine mooring lines for each floating substructure, 63 in total; 4. Nine anchors or piles for each floating substructure, 63 in total; 5. Seven inter-array cables (dynamic and static); and 6. Associated scour and cable protections. All as described in the Application. The total area within the Development site boundary is 10km^2. The location and boundary of the Development site is shown in Figure 1 of Annex 1. **Substitute:** The Application is for the construction and operation of an offshore energy generating station, with a generating capacity of around 100

	megawatts ("MW"). The offshore generating station shall be comprised of up to: 1. Five floating offshore wind turbine generators ("WTGs") with: a. A maximum hub height of 190 metres ("m") above highest astronomical tide ("HAT"), b. A maximum height to blade tip of 300m above HAT, c. A maximum rotor diameter of 250m, and, d. A minimum blade tip clearance from mean sea level of 35m; 2. One floating offshore WTG with: a. A maximum hub height of 190m above HAT, b. A maximum height to blade tip of 300m above HAT, c. A maximum rotor diameter of 220m, and, d. A minimum blade tip clearance from mean sea level of 35m; 3. Six associated floating substructures; 4. Nine mooring lines for each floating substructure, 54 in total; 5. Nine anchors or piles for each floating substructure, 54 in total; 6. Seven inter-array cables (dynamic and static); 7. Associated scour and cable protections; and, except to the extent modified by the foregoing, all as described in the Application and the Variation Application and by the conditions imposed by the Scottish Ministers. References to "the Development" in this consent shall be construed accordingly. The total area within the Development site boundary is 10 square kilometres (km^2) of which up to 5.85km^2 will comprise the WTG Footprint Area. The location and boundary of the Development site is shown in Figure 1 of Annex 1.
In Annex 2 of the Pentland Floating Offshore Wind Farm s.36 Consent	**For:** **1. Duration of the Consent** The consent is valid from the date of this consent until 10 years from the date of Final Commissioning of the Development. Written confirmation of the date of Final Commissioning of the Development must be provided by the Company to the Scottish Ministers and to The Highland Council no later than one calendar month after this date. ***Reason:*** *To define the duration of the consent.* **7. Implementation in accordance with approved plans and requirements of this consent** Except as otherwise required by the terms of this consent, the Development must be constructed and operated in accordance with this consent, the Application, the Environmental Impact Assessment

Report (“the EIA Report”) submitted by the Company, and any other documentation and information lodged in support of the Application.

***Reason**: To ensure that the Development is carried out in accordance with the approved details.*

18. Cable Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an updated CaP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, SFF, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CaP must be in accordance with the Application.

The CaP must include, but not be limited to, the following:

a) The location, duration and cable laying techniques for cables;
b) The results of monitoring or data collection work (including geophysical, geotechnical, and benthic surveys) which will help inform cable routing;
c) Technical specification of the cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
d) A Cable Burial Risk Assessment (“CBRA”) to ascertain burial depths and where necessary alternative protection measures;
e) Methodologies for post construction and operational surveys (e.g. over trawl) of the cables where mechanical protection of cables laid on the sea bed is deployed; and
f) Methodologies for cable inspection with measures to address and report to the Scottish Ministers any exposure of cables.

Any consented cable protection works must ensure existing and future safe navigation is not compromised. The Licensing Authority will accept amaximum of 5% reduction in surrounding depth referenced to Chart Datum. Any greater reduction in depth must be agreed in writing by the Licensing Authority.

21. Particle Management Plan

Not later than six months prior to the commencement of the works, a Particles Management Plan (“PMP”) shall be submitted to the Scottish Ministers for their written approval in consultation with the Scottish Environment Protection Agency (“SEPA”);

The PMP shall be consistent with the Application and supporting documents and shall include, but not be limited to, the following:

a) A programme of scheduled monitoring for radioactive particles;

b) The measures to be taken to reduce the likelihood of irradiated fuel particles in sediment being suspended or disturbed; and
c) A waste management plan for the construction phase of the development.

There shall be no Commencement of the Development unless and until the PMP is approved in writing by the Scottish Ministers, in consultation with SEPA;

Any proposed amendment to the approved PMP shall be submitted, in writing, to the Scottish Ministers for its written approval, in consultation with SEPA. The proposed amendment shall be submitted to the Scottish Ministers no later than 6 months prior to the anticipated implementation of the proposed amendment (or such shorter period as may be agreed with the Scottish Ministers in writing). No amendment to the PMP shall take effect unless and until approved in writing by the Scottish Ministers in consultation with SEPA;

The PMP and any amended PMP shall thereafter be implemented in full.

22. Television and Radio Reception Mitigation Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Radio and Television Reception Mitigation Plan to the Scottish Ministers for approval, in consultation with the Highland Council. The Radio and Television Reception Mitigation Plan shall provide for a baseline radio and television reception survey to be carried out prior to the installation of any turbine forming part of the Development. The results of the baseline radio and television reception survey shall be submitted to the Highland Council prior to the installation of any turbine forming part of the Development.

The approved Radio and Television Reception Mitigation Plan shall be implemented in full.

Any claim by any person regarding radio or television interference at their house, business premises or other building, made during the period from installation of any turbine forming part of the Development to the date falling twelve months after the Date of Final Commissioning shall be investigated by a qualified engineer and the results of the investigation shall be considered against the approved plan and submitted to the Highland Council.

Should any impairment to the radio or television signal be attributable to the Development, the impairment shall be remedied so that the standard of reception at the affected property is equivalent to the baseline radio or television reception.

Reason: *To mitigate any potential impacts on radio and television reception.*

27. Environmental Clerk of Works

Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with NatureScot, appoint an independent Environmental Clerk of Works ("ECoW"). The ECoW must be appointed in time to review and approve the draft version of the first plan or programme submitted under this consent to the Scottish Ministers, in sufficient time for any pre-construction monitoring requirements, and remain in post until a date agreed by the Scottish Ministers. The terms of appointment must also be approved by the Scottish Ministers in consultation with NatureScot.

The terms of the appointment must include, but not be limited to:

a) Quality assurance of final draft versions of all plans and programmes required under this marine licence;
b) Responsible for the monitoring and reporting of compliance with the marine licence conditions and the environmental mitigation measures for all wind farm infrastructure;
c) Provision of on-going advice and guidance to the Company in relation to achieving compliance with conditions, including but not limited to the conditions relating to and the implementation of the CMS, the EMP, the PEMP, the CaP and the VMP;
d) Provision of reports on point b & c above to the Scottish Ministers at timescales to be determined by the Scottish Ministers;
e) Induction and toolbox talks to onsite construction teams on environmental policy and procedures, including temporary stops and keeping a record of these;
f) Monitoring that the Development is being constructed in accordance with the plans and this consent, the Application and in compliance with all relevant regulations and legislation;
g) Reviewing and reporting incidents/near misses and reporting any changes in procedures as a result to the Scottish Ministers; and
h) Agreement of a communication strategy with the Scottish Ministers.

28. Fisheries Liaison Officer

Prior to the Commencement of the Development, a Fisheries Liaison Officer ("FLO"), must be appointed by the Company and approved, in writing, by the Scottish Ministers, following consultation with SFF. The FLO must be appointed by the Company for the period from Commencement of the Development until the Final Commissioning of the development. The identity and credentials of the FLO must be included in the EMP (referred to in condition 12). The FLO must establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development and ensure compliance with best practice guidelines whilst doing so.

The responsibilities of the FLO must include:

a) Establishing and maintaining effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea concerning the overall Development and any amendments to the EMP and site environmental procedures;
b) The provision of information relating to the safe operation of fishing activity on the site of the Development; and
c) Ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea.

Substitute:

1. Duration of the Consent

The consent is valid from the date of this consent until 25 years from the date of Final Commissioning of the Development. Written confirmation of the date of Final Commissioning of the Development must be provided by the Companyto the Scottish Ministers and to The Highland Council no later than one calendar month after this date.

***Reason**: To define the duration of the consent.*

7. Implementation in accordance with approved plans and requirements of this consent

Except as otherwise required by the terms of this consent, the Development must be constructed and operated in accordance with this consent, the Application, the Environmental Impact Assessment Report ("the EIA Report") submitted by the Company, any other documentation and information lodged in support of the Application, and the Variation Application.

***Reason**: To ensure that the Development is carried out in accordance with the approved details.*

18. Cable Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an updated CaP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, SFF, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CaP must be in accordance with the Application.

The CaP must include, but not be limited to, the following:

a) The location, duration and cable laying techniques for cables;
b) The results of monitoring or data collection work (including geophysical, geotechnical, and benthic surveys) which will help inform cable routing;
c) Technical specification of the cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
d) A Cable Burial Risk Assessment ("CBRA") to ascertain burial depths and where necessary alternative protection measures;
e) Methodologies for post construction and operational surveys (e.g. over trawl) of the cables where mechanical protection of cables laid on the sea bed is deployed; and
f) Methodologies for cable inspection with measures to address and report to the Scottish Ministers any exposure of cables.

Any consented cable protection works must ensure existing and future safe navigation is not compromised. The Licensing Authority will accept amaximum of 5% reduction in surrounding depth referenced to Chart Datum. Any greater reduction in depth must be agreed in writing by the Licensing Authority.

***Reason**: To mitigate any potential impacts on the environmental interests during construction and operation.*

21. Particle Management Plan

Not later than six months prior to the commencement of the works, a Particles Management Plan ("PMP") shall be submitted to the Scottish Ministers for their written approval in consultation with the Scottish Environment Protection Agency ("SEPA");

The PMP shall be consistent with the Application and supporting documents and shall include, but not be limited to, the following:
a) A programme of scheduled monitoring for radioactive particles;
b) The measures to be taken to reduce the likelihood of irradiated fuel particles in sediment being suspended or disturbed; and
c) A waste management plan for the construction phase of the development.

There shall be no Commencement of the Development unless and until the PMP is approved in writing by the Scottish Ministers, in consultation with SEPA;

Any proposed amendment to the approved PMP shall be submitted, in writing, to the Scottish Ministers for its written approval, in consultation with SEPA. The proposed amendment shall be submitted to the Scottish Ministers no later than 6 months prior to the anticipated implementation of the proposed amendment (or such shorter period as may be agreed with the Scottish Ministers in writing). No amendment to the PMP shall take effect unless and until approved in writing by the Scottish Ministers in consultation with SEPA;

The PMP and any amended PMP shall thereafter be implemented in full.

Reason: *To mitigate any potential impacts on the environmental and human health interests during construction and operation.*

22. Radio and Television Reception Mitigation Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Radio and Television Reception Mitigation Plan to the Scottish Ministers for approval, in consultation with the Highland Council. The Radio and Television Reception Mitigation Plan shall provide for a baseline radio and television reception survey to be carried out prior to the installation of any turbine forming part of the Development. The results of the baseline radio and television reception survey shall be submitted to the Highland Council prior to the installation of any turbine forming part of the Development.

The approved Radio and Television Reception Mitigation Plan shall be implemented in full.

Any claim by any person regarding radio or television interference at their house, business premises or other building, made during the period from installation of any turbine forming part of the Development to the date falling twelve months after the Date of Final Commissioning shall be investigated by a qualified engineer and the results of the investigation shall be considered against the approved plan and submitted to the Highland Council.

Should any impairment to the radio or television signal be attributable to the Development, the impairment shall be remedied so that the standard of reception at the affected property is equivalent to the baseline radio or television reception.

Reason: *To mitigate any potential impacts on radio and television reception.*

27. Environmental Clerk of Works

Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with NatureScot, appoint an independent Environmental Clerk of Works ("ECoW"). The ECoW must be appointed in time to review and approve the draft version of the first plan or programme submitted under this consent to the Scottish Ministers, in sufficient time for any pre-construction monitoring requirements, and remain in post until a date agreed by the Scottish Ministers. The terms of appointment must also be approved by the Scottish Ministers in consultation with NatureScot.

The terms of the appointment must include, but not be limited to:

a) Quality assurance of final draft versions of all plans and programmes required under this marine licence;
b) Responsible for the monitoring and reporting of compliance with the marine licence conditions and the environmental mitigation measures for all wind farm infrastructure;
c) Provision of on-going advice and guidance to the Company in relation to achieving compliance with conditions, including but not limited to the conditions relating to and the implementation of the CMS, the EMP, the PEMP, the CaP and the VMP;
d) Provision of reports on point b & c above to the Scottish Ministers at timescales to be determined by the Scottish Ministers;
e) Induction and toolbox talks to onsite construction teams on environmental policy and procedures, including temporary stops and keeping a record of these;
f) Monitoring that the Development is being constructed in accordance with the plans and this consent, the Application and in compliance with all relevant regulations and legislation;
g) Reviewing and reporting incidents/near misses and reporting any changes in procedures as a result to the Scottish Ministers; and
h) Agreement of a communication strategy with the Scottish Ministers.

Reason: *To ensure effective monitoring of, and compliance with, the environmental mitigation and management measures associated with the Development.*

28. Fisheries Liaison Officer

Prior to the Commencement of the Development, a Fisheries Liaison Officer ("FLO"), must be appointed by the Company and approved, in writing, by the Scottish Ministers, following consultation with SFF. The FLO must be appointed by the Company for the period from Commencement of the Development until the Final Commissioning of the development. The identity and credentials of the FLO must be included in the EMP (referred to in condition 12). The FLO must establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development and ensure compliance with best practice guidelines whilst doing so.

The responsibilities of the FLO must include:

a) Establishing and maintaining effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea concerning the overall Development and any amendments to the EMP and site environmental procedures;
b) The provision of information relating to the safe operation of fishing activity on the site of the Development; and

	c) Ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea. ***Reason:*** *To mitigate the impact to commercial fishermen*
In Annex 3 of the Pentland Floating Offshore Wind Farm s.36 Consent	**Insert:** "the Variation Application" means the variation application letter and the Section 36C Consent and Marine Licence Variation Application Report submitted to the Scottish Ministers by Highland Wind Limited on 11 October 2023. "the WTG Footprint Area" means the area of sea surface occupied by the infrastructure at or above sea level (i.e. the WTGs and associated floating substructures);
In Annex 3 of the Pentland Floating Offshore Wind Farm s.36 Consent	**For:** "MSS" means Marine Scotland Science; **Substitute:** "MD-SEDD" (formerly known as "MSS", Marine Scotland Science) means Marine Directorate – Science, Evidence Data, and Digital;
In Annex 3 of the Pentland Floating Offshore Wind Farm s.36 Consent	**For:** "HWL" or "the Company" means Highland Wind Limited, 4th Floor 115 George Street, Edinburgh, Midlothian, Scotland, EH2 4JN, Company Number: SC675148; **Substitute:** "the Company" means Highland Wind Limited, 4th Floor 115 George Street, Edinburgh, Midlothian, Scotland, EH2 4JN, Company Number: SC675148, or such other person for the time being entitled to the benefit of the consent under section 36 of the Electricity Act 1989;

4.4 Revised copies of Annexes 1, 2 and 3 of the Existing Consent for the Development are issued together with this decision letter.

4.5 Copies of this letter have been sent to the Highland Council. This letter has also been published on Marine Scotland Information.

4.6 The Scottish Ministers' decision is final, subject to the right of any aggrieved person to apply to the Court of Session for judicial review. Judicial review is the mechanism by which the Court of Session supervises the exercise of administrative functions, including how the Scottish Ministers exercise their statutory function to determine applications for variation of a s.36 consent.

4.7 Your local Citizens' Advice Bureau or your solicitor will be able to advise you about the applicable procedures.

Yours sincerely,

Rebecca Bamlett
Marine Directorate - Licensing Operations Team
A member of the staff of the Scottish Government

3 April 2024

DEFINITIONS AND GLOSSARY OF TERMS - In the decision letter attached at Annex C

"AESI" means Adverse Effect on Site Integrity;
"AA" means Appropriate Assessment;
"Berwick Bank" means the Berwick Bank Wind Farm;
"DAERA" means the Department of Agriculture, Environment and Rural Affairs;
"HES" means Historic Environment Scotland;
"HIAL" means Highlands and Islands Airports Limited;
"IFG" means Inshore Fishery Group;
"km" means kilometres;
"MCA" means Maritime and Coastguard Agency;
"MD-LOT" means Marine Directorate - Licensing Operations Team;
"NATS" means the National Air Traffic Services;
"NLB" means Northern Lighthouse Board;
"PVA" means Population Viability Assessment;
"RSPB Scotland" means Royal Society for the Protection of Birds Scotland;
"s.36" means section 36 (Consent required for construction etc. of generating stations) of the Electricity Act 1989;
"RYA" means the Royal Yachting Association;
"SEPA" means Scottish Environment Protection Agency;
"SFF" means Scottish Fishermen's Federation;
"SLVIA" means Seascape, Landscape and Visual Impact Assessment;
"SPAs" means Special Protection Areas;
"km^2" means squared kilometres;
"m^2" means square metres;
"the 1994 Habitats Regulations" means the Conservation (Natural Habitats, &c.) Regulations 1994;
"the 2017 Habitats Regulations" means the Conservation of Habitats and Species Regulations 2017;
"the Application" means the Original Application as varied by (i) the Variation 01 Application and (ii) the Variation 02 Application;
"the Company" means Highland Wind Limited, 4th Floor 115 George Street, Edinburgh, Midlothian, Scotland, EH2 4JN, Company Number: SC675148;
"the Development" means the Pentland Floating Offshore Wind Farm, located approximately 7.5 kilometres from the coast of Dounreay, Caithness;
"the Electricity Act" means the Electricity Act 1989;
"the Existing Consent" means the s.36 consent granted by the Scottish Ministers on ~~28 June 2023~~03 April 2024 for the construction and operation of the Pentland Floating Offshore Wind Farm;
"the 2023 AA" means the appropriate assessment completed in June 2023 in respect of the Original Application;
"the 2024 AA" means the appropriate assessment completed in March 2024 in respect of the Variation Application 01;
"the 2025 AA" means the appropriate assessment completed in XX 2026 in respect of the Variation Application 02;
"the Original Application" means the s.36 consent application submitted to the Scottish Ministers on 11 August 2022 by the Company;
"the Original Consent" means the s.36 consent granted by the Scottish Ministers on 28 June 2023 for the construction and operation of the Pentland Floating Offshore Wind Farm;
"the Variation 01 Application" means the application to vary the ~~Existing~~ Original Consent submitted to the Scottish Ministers on 11 October 2023 by the Company;
"the Variation 02 Application" means the application to vary the Existing Consent submitted to

the Scottish Ministers on 27 January 2026 by the Company;
"the Variation Regulations" means the Electricity Generating Stations (Applications for Variation of Consent) (Scotland) Regulations 2013;
"the 2010 Act" means the Marine (Scotland) Act 2010;
"the 2017 EW Regulations" means the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;
"the 2017 MW Regulations" means the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017;
"WTGs" means wind turbine generators.

ANNEX 1 of the Pentland Floating Offshore Wind Farm Consent

DESCRIPTION OF THE DEVELOPMENT

The Application is for the construction and operation of an offshore energy generating station, with a generating capacity of around 100 megawatts ("MW"). The offshore generating station shall be comprised of up to:

1. ~~Five~~ Six floating offshore wind turbine generators ("WTGs") with:
    a. A maximum hub height of 190 metres ("m") above highest astronomical tide ("HAT"),
    b. A maximum height to blade tip of 300m above HAT,
    c. A maximum rotor diameter of 26~~5~~0m, and,
    d. A minimum blade tip clearance from mean sea level of ~~35m~~28m, save where six WTGs with a rotor diameter over 236m are constructed, when it must be a minimum of 30m;

~~2. One floating offshore WTG with:~~
    ~~a. A maximum hub height of 190 m above HAT,~~
    ~~b. A maximum height to blade tip of 300m above HAT,~~
    ~~c. A maximum rotor diameter of 220m, and,~~
    ~~d. A minimum blade tip clearance from mean sea level of 35m;~~

~~3.~~2. Six associated floating substructures;

~~4.~~3. Nine mooring lines for each floating substructure, 54 in total;

~~5.~~4. Nine anchors or piles for each floating substructures, 54 in total;

~~6.~~5. Seven inter-array cables (dynamic and static);

~~7.~~6. Associated scour and cable protections;

and, except to the extent modified by the foregoing, all as described in the Application, the Variation 01 Application and the Variation 02 Application and by the conditions imposed by the Scottish Ministers. References to "the Development" in this consent shall be construed accordingly.

The total area within the Development site boundary is 10 square kilometres ("km^2") of which up to 5.85km^2 will comprise the WTG Footprint Area. The location and boundary of the Development site is shown in Figure 1 of Annex 1.

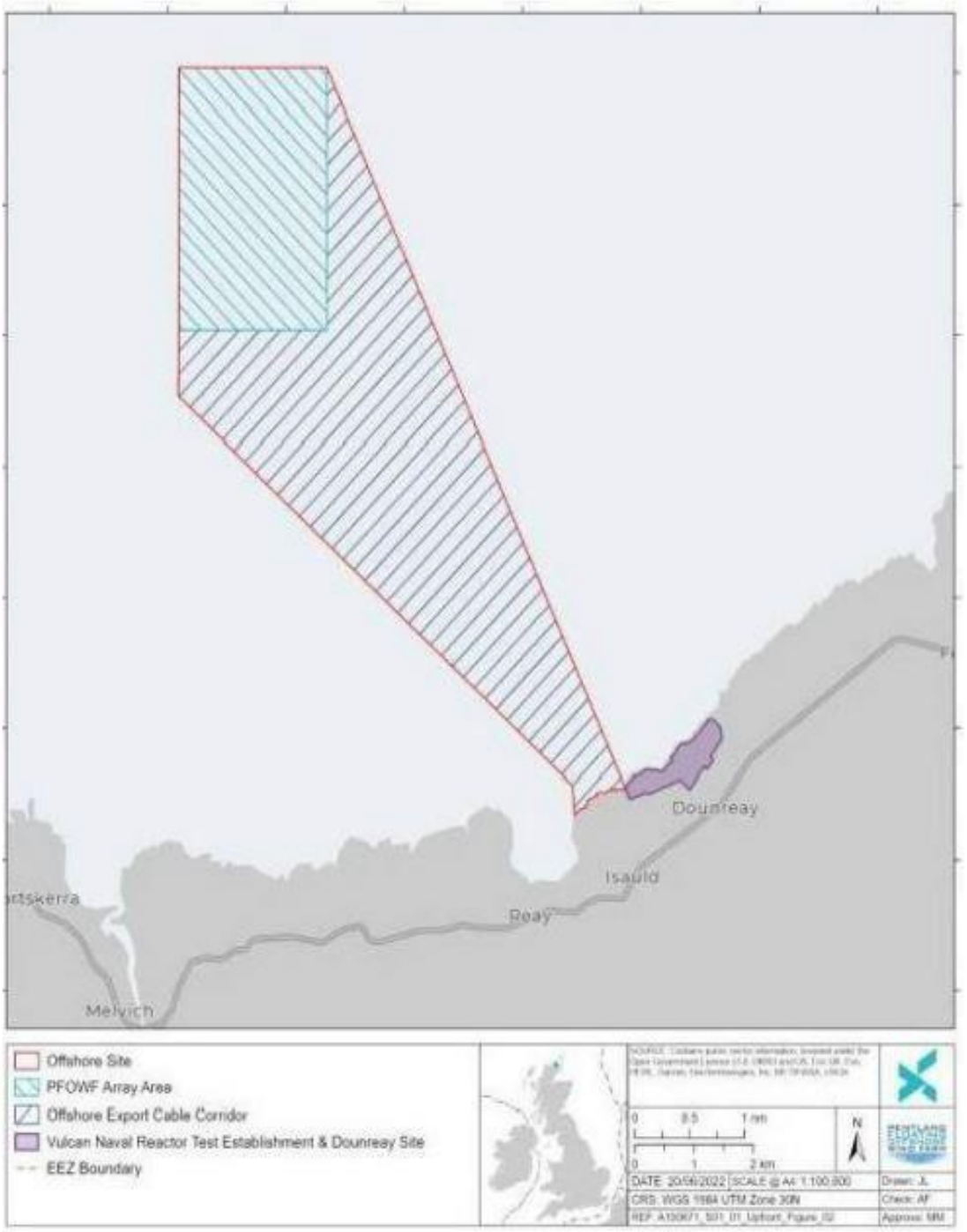

Figure 1. Pentland Floating Offshore Wind Farm Site and Export Cable Corridor.

ANNEX 2 of the Pentland Floating Offshore Wind Farm Consent

ANNEX 2 – CONDITIONS

1. Duration of the Consent

The consent is valid from the date of this consent until 25 years from the date of Final Commissioning of the Development. Written confirmation of the date of Final Commissioning of the Development must be provided by the Company to the Scottish Ministers and to The Highland Council no later than one calendar month after this date.

***Reason**: To define the duration of the consent.*

2. Commencement of the Development

The Commencement of the Development must be no later than five years from the date of this consent, or in substitution such other later period as the Scottish Ministers may hereafter direct in writing. The Company must provide written confirmation of the intended date of Commencement of the Development to the Scottish Ministers and to The Highland Council no later than one calendar month before that date.

***Reason**: To ensure that the Commencement of the Development is undertaken within a reasonable timescale after consent is granted.*

3. Decommissioning

There must be no Commencement of the Development until a Decommissioning Programme, submitted in accordance with a section 105 notice served by the appropriate Minister, has been approved under section 106 of the Energy Act 2004 by the appropriate Minister.

***Reason**: To ensure the decommissioning and removal of the Development in an appropriate and environmentally acceptable manner, and in the interests of safety and environmental protection.*

4. Assignation

This consent must not be assigned without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may authorise the assignation of the consent (with or without conditions) or refuse assignation as they may see fit. The consent cannot be assigned, alienated, or transferred otherwise than in accordance with the assignation procedure as directed by the Scottish Ministers.

***Reason**: To safeguard the obligations of the consent if transferred to another company.*

5. Redundant Wind Turbine Generators

If any Wind Turbine Generator ("WTG") fails to generate electricity for a continuous period of 12 months then, unless otherwise agreed in writing by the Scottish Ministers, the Company must: (i) by no later than the date of expiration of the 12 month period, submit a scheme to the Scottish Ministers setting out the manner in which that WTG and associated infrastructure will be removed from the site and the sea bed restored; and (ii) implement the approved scheme within six months of the date of its approval, or such other date as agreed in writing by the Scottish Ministers, all to the satisfaction of the Scottish Ministers.

***Reason**: To ensure that should a WTG become redundant it is removed from the site, in the interests of safety, amenity and environmental protection.*

6. Incident Reporting

In the event of any breach of health and safety or environmental obligations relating to the Development during the period of this consent and decommissioning, the Company must provide written notification of the nature and timing of the incident to the Scottish Ministers within 24 hours of the incident occurring. Confirmation of remedial measures taken and/or to be taken to rectify the breach must be provided, in writing, to the Scottish Ministers within a period of time to be agreed by the Scottish Ministers.

***Reason**: To keep the Scottish Ministers informed of any such incidents which may be in the public interest.*

7. Implementation in accordance with approved plans and requirements of this consent

Except as otherwise required by the terms of this consent, the Development must be constructed and operated in accordance with this consent, the Application, the Environmental Impact Assessment Report ("the EIA Report") submitted by the Company, any other documentation and information lodged in support of the Application.

***Reason**: To ensure that the Development is carried out in accordance with the approved details.*

8. Submission and approval of plans

The Company must submit the requested plans as detailed in the conditions, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with any such advisors or organisations as detailed in these conditions or as may be required at the discretion of the Scottish Ministers.

Any updates or amendments made to the approved plans must be submitted, in writing, to the Scottish Ministers for their written approval. The Development must, at all times, be constructed and operated in accordance with the approved plans.

***Reason**: To ensure that the Development is constructed and operated in accordance with the approved details.*

9. Compliance with this consent

The Company must satisfy itself that all contractors or sub-contractors are aware of the extent of the Development for which this consent has been granted, the activity which is consented and the terms of the conditions attached to this consent. All contractors and sub-contractors permitted to engage in the Development must abide by the conditions set out in this consent.

***Reason**: To ensure that the Development is constructed and operated in accordance with the approved details.*

10. Construction Programme

The Company must, no later than six months prior to the Commencement of the Development, submit a Construction Programme ("CoP"), in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, Civil Aviation Authority ("CAA"), Ministry of Defence ("MOD"), and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CoP must set out:

a. The proposed date for Commencement of the Development;
b. The proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;
c. The proposed timings and sequencing of construction work for all elements of the Development infrastructure;
d. Contingency planning for poor weather or other unforeseen delays; and
e. The scheduled date for Final Commissioning of the Development.

The Company must send the approved CoP to The Highland Council, Maritime and Coastguard Agency ("MCA") and Northern Lighthouse Board ("NLB") for information only.

***Reason**: To confirm the timing and programming of construction.*

11. Construction Method Statement

The Company must, no later than six months prior to the Commencement of the Development submit a Construction Method Statement ("CMS"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, NLB and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CMS must include, but not be limited to:

a. Details of the commencement dates, duration, and phasing for the key elements of construction, the working areas, the construction procedures, and good working practices for installing the Development.
b. Details of the roles and responsibilities, chain of command and contact details of company personnel, any contractors or sub- contractors involved during the construction of the Development.
c. Details of how the construction related mitigation steps proposed in the Application are to be delivered.

The CMS must adhere to the construction methods assessed in the Application. The CMS also must, so far as is reasonably practicable, be consistent with the Design Statement ("DS"), the Environmental Management Plan ("EMP"), the Vessel Management Plan ("VMP"), the Navigational Safety Plan ("NSP"), the Piling Strategy ("PS"), the Cable Plan ("CaP") and the Lighting and Marking Plan ("LMP").

The final CMS must be sent to the Highland Council for information only.

Reason: *To ensure the appropriate construction management of the Development, taking into account mitigation measures to protect the environment and other users of the marine area.*

12. Environmental Management Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an EMP, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, Royal Society for the Protection of Birds Scotland ("RSPB Scotland"), and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The EMP must provide the over-arching framework for on-site environmental management during the phases of development as follows:

a. All construction as required to be undertaken before the Final Commissioning of the Development; and
b. The operational lifespan of the Development from the Final Commissioning of the Development until the cessation of electricity generation (environmental management during decommissioning is addressed by the Decommissioning Programme provided for by condition 3).

The EMP must be in accordance with the Application insofar as it relates to environmental management measures. The EMP must set out the roles, responsibilities, and chain of command for the Company personnel, any contractors, or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and operation of the Development. It must address, but not be limited to, the following over-arching requirements for environmental management during construction:

a. Mitigation measures to prevent significant adverse impacts to environmental

interests, as identified in the Application and pre-consent and pre-construction monitoring or data collection, and include reference

b. to relevant parts of the CMS (refer to condition 11);
c. A pollution prevention and control method statement, including contingency plans;
d. Management measures to prevent the introduction of invasive non- native marine species;
e. A site waste management plan (dealing with all aspects of waste produced during the construction period), including details of contingency planning in the event of accidental release of materials which could cause harm to the environment. Wherever possible the waste hierarchy of reduce, reuse, and recycle should be encouraged; and
f. The reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The EMP must be regularly reviewed by the Company at intervals agreed by the Scottish Ministers. Reviews must include, but not be limited to, the reviews of updated information on construction methods and operations of the Development and updated working practices.

The EMP must be informed, so far as is reasonably practicable, by the baseline monitoring or data collection undertaken as part of the Application and the Project Environmental Monitoring Programme ("PEMP").

Reason: *To ensure that all construction and operation activities are carried out in a manner that minimises their impact on the environment, and that mitigation measures contained in the Application, or as otherwise agreed are fully implemented.*

13. Vessel Management Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a VMP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, Scottish Fishermen's Federation ("SFF") and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The VMP must include, but not be limited to, the following details:

a. The number, types and specification of vessels required;
b. How vessel management will be coordinated, particularly during construction, but also during operation;
c. Location of working port(s), the routes of passage, the frequency with which vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Development.

The confirmed individual vessel details must be notified to the Scottish Ministers

in writing no later than 14 days prior to the Commencement of the Development, and thereafter, any changes to the details supplied must be notified to the Scottish Ministers, as soon as practicable, prior to any such change being implemented in the construction or operation of the Development.

The VMP should refer to the Scottish Marine Wildlife Watching Code and Guide to Best Practice for Watching Marine Wildlife for guidance on how vessels should behave around aggregations of birds on the water.

The VMP must, so far as is reasonably practicable, be consistent with the CMS and EMP, the Fisheries Management and Mitigation Strategy ("FMMS"), the PEMP, the NSP, and the LMP.

***Reason**: To mitigate the impact of vessels.*

14. Operation and Maintenance Programme

The Company must, no later than three months prior to the Final Commissioning of the Development, submit an Operation and Maintenance Programme ("OMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, NLB, The Highland Council and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The OMP must set out the procedures and good working practices for operations and the maintenance of the WTGs and substructure of the Development. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

The OMP must, so far as is reasonably practicable, be consistent with the CMS, the EMP, the PEMP, the VMP, the NSP and the LMP.

The Company must send the approved OMP to The Highland Council for information only.

***Reason**: To safeguard environmental interests during operation and maintenance of the Development.*

15. Navigational Safety Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an NSP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with MCA, NLB, Royal Yachting Association ("RYA"), SFF and any other navigational advisors or organisations as may be required at the discretion of the Scottish Ministers.

The NSP must include, but not be limited to, the following issues:

a. Navigational safety measures;
b. Construction exclusion zones;
c. Notice(s) to mariners and radio navigation warnings;
d. Anchoring areas;
e. Temporary construction lighting and marking;
f. Buoyage.

***Reason**: To mitigate the navigational risk to other legitimate users of the sea.*

16. Lighting and Marking Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an LMP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, NLB, CAA, MOD, RYA, the Highland Council, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The LMP must provide that the Development be lit and marked in accordance with the current CAA and MOD aviation lighting policy and guidance that is in place as at the date of the Scottish Ministers approval of the LMP, or any such other documents that may supersede this guidance prior to the approval of the LMP. Consideration should be given in the LMP to reducing the luminous intensity of aviation lighting in certain visibility conditions but only where this is in accordance with the current CAA and MOD aviation lighting policy and guidance that is in place. The LMP must define how the Development will be lit throughout its life to maintain civil and military aviation safety requirements as determined necessary for aviation safety by the MOD and, accordingly, must set out:

a. details of any construction equipment and temporal structures with a total height of 50m or greater (above mean sea level) that will be deployed during the construction of the Development and details of any aviation warning lighting that they will be fitted with; and
b. the locations and heights of the WTGs featured in the Development identifying those that will be fitted with aviation warning lighting identifying the position of the lights on the WTGs, the type(s) of lights that will be fitted and the performance specification(s) of the lighting type(s) to be used.

The LMP must also detail the navigational lighting requirements detailed in the International Association of Marine Aids to Navigation and Lighthouse Authorities ("IALA") Guideline G-1162 or any other documents that may supersede this guidance prior to approval of the LMP.

***Reason**: To ensure civil and military aviation and navigational safety and the safe marking and lighting of the Development.*

17. Project Environmental Monitoring Programme

The Company must, no later than six months prior to the Commencement of the

Development, submit a PEMP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, RSPB Scotland and anyother environmental advisors or organisations as required at the discretion of the Scottish Ministers. The PEMP must be in accordance with the Application as it relates to environmental monitoring.

The PEMP must set out measures by which the Company must monitor the environmental impacts of the Development. Monitoring is required throughout the lifespan of the Development where this is deemed necessary by the Scottish Ministers. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.

The Scottish Ministers must approve all initial methodologies for the above monitoring, in writing and, where appropriate, in consultation with NatureScot and any other environmental advisors or organisations as required at the discretion of the Scottish Ministers.

Monitoring must be done in such a way so as to ensure that the data which is collected allows useful and valid comparisons between different phases of the Development. Monitoring may also serve the purpose of verifying key predictions in the Application. In the event that further potential adverse environmental effects are identified, for which no predictions were made in the Application, the Scottish Ministers may require the Company to undertake additional monitoring.

The PEMP must cover the following matters:

a. monitoring or data collection for impact on seabirds
b. monitoring for impacts on marine mammals
c. monitoring for impacts on benthic ecology
d. Post-construction monitoring on Electromagnetic Fields (“EMF”) produced by the constructed cables.
e. The Company’s contribution to data collection or monitoring of wider strategic relevance, including in relation to diadromous fish, as identified and agreed by the Scottish Ministers.

In relation to EMF, the Company must monitor and provide a report on the EMF produced by the works to the Scottish Ministers. The Company must agree the methodologies and timescales for monitoring with the Scottish Ministers prior to the Commencement of the Development as part of wider strategic monitoring on EMF. Any agreement must be adhered to unless otherwise agreed and approved by the Scottish Ministers.

The requirement for monitoring pre-construction, during construction and post-construction in relation to the above receptors must be agreed by the Scottish Ministers.

Due consideration must be given to the Scottish Marine Energy Research (“ScotMER”) programme, or any successor programme formed to facilitate these research interests.

Any pre-consent monitoring or data collection carried out by the Company to address any of the above issues may be used in part to discharge this condition subject to the written approval of the Scottish Ministers.

The PEMP is a live document which will be regularly reviewed by the Scottish Ministers, at timescales to be determined by them to identify the appropriateness of on-going monitoring. Following such reviews, the Scottish Ministers may require the Company to amend the PEMP and submit such an amended PEMP, in writing, to the Scottish Ministers, for their written approval. Such approval may only be granted following consultation with NatureScot and any other environmental, or such other advisors as may be required at the discretion of the Scottish Ministers.

The Company must submit written reports and associated raw and processed data of such monitoring or data collection to the Scottish Ministers at timescales to be determined by them. Consideration should be given to data storage, analysis and reporting and be to Marine Environmental Data and Information Network standards.

Subject to any legal restrictions regarding the treatment of the information, the Scottish Ministers, or any such other party appointed at the Scottish Ministers' discretion, may make the results publicly available.

The Scottish Ministers may agree, in writing, that monitoring may be reduced or ceased before the end of the lifespan of the Development.

***Reason**: To ensure that appropriate and effective monitoring of the impacts of the Development is undertaken*

18. Cable Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an updated CaP, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, SFF, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CaP must be in accordance with the Application.

The CaP must include, but not be limited to, the following:

a. The location, duration and cable laying techniques for cables;
b. The results of monitoring or data collection work (including geophysical, geotechnical, and benthic surveys) which will help inform cable routing;
c. Technical specification of the cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
d. A Cable Burial Risk Assessment ("CBRA") to ascertain burial depths and where necessary alternative protection measures;
e. Methodologies for post construction and operational surveys (e.g. over trawl) of the cables where mechanical protection of cables laid on the sea bed is deployed; and
f. Methodologies for cable inspection with measures to address and report to the Scottish Ministers any exposure of cables.

Any consented cable protection works must ensure existing and future safe navigation is not compromised. The Licensing Authority will accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum. Any greater reduction in depth must be agreed in writing by the Licensing Authority.

***Reason**: To mitigate any potential impacts on the environmental interests during construction and operation.*

19. Fisheries Management and Mitigation Strategy

The Company must no later than six months prior to the Commencement of the Development, submit an FMMS, in writing, to the Scottish Ministers for their written approval, in consultation with SFF. Commencement of the Development cannot take place until such approval is granted.

In order to inform the production of the FMMS, the Company must monitor or collect data as relevant and agreed with the Scottish Ministers.

As part of any finalised FMMS, the Company must produce and implement a mitigation strategy for each commercial fishery that can prove to the Scottish Ministers that they would be adversely affected by the Development. The Company and any contractors or sub-contractors working for the Company must implement the mitigation measures committed to be carried out by the Company within the FMMS.

***Reason**: To mitigate the impact on commercial fisheries.*

20. Protocol for Archaeological Discoveries

The Company must, no later than six months prior to the Commencement of the Development, submit an updated Protocol for Archaeological Discoveries ("PAD") and Written Scheme of Investigation ("WSI") which sets out what the Company must do on discovering any marine archaeology during the construction, operation, maintenance, and monitoring of the Development, in writing, to the Scottish Ministers for their written approval. Commencement of the Development cannot take place until such approval is granted. Such approval may be given only following consultation by the Scottish Ministers with Historic Environment Scotland ("HES") and any such advisors as may be required at the discretion of the Scottish Ministers. The Reporting Protocol must be implemented in full, at all times, by the Company.

The Company must send the approved PAD and WSI to the Highland Council for information only.

***Reason**: To ensure any discovery of archaeological interest is properly and correctly reported.*

21. Particle Management Plan

Not later than six months prior to the commencement of the works, a Particles

Management Plan ("PMP") shall be submitted to the Scottish Ministers for their written approval in consultation with the Scottish Environment Protection Agency ("SEPA");

The PMP shall be consistent with the Application and supporting documents and shall include, but not be limited to, the following:

a. A programme of scheduled monitoring for radioactive particles;
b. The measures to be taken to reduce the likelihood of irradiated fuel particles in sediment being suspended or disturbed; and
c. A waste management plan for the construction phase of the development.

There shall be no Commencement of the Development unless and until the PMP is approved in writing by the Scottish Ministers, in consultation with SEPA;

Any proposed amendment to the approved PMP shall be submitted, in writing, to the Scottish Ministers for its written approval, in consultation with SEPA. The proposed amendment shall be submitted to the Scottish Ministers no later than 6 months prior to the anticipated implementation of the proposed amendment (or such shorter period as may be agreed with the Scottish Ministers in writing). No amendment to the PMP shall take effect unless and until approved in writing by the Scottish Ministers in consultation with SEPA;

The PMP and any amended PMP shall thereafter be implemented in full.

Reason: *To mitigate any potential impacts on the environmental and human health interests during construction and operation.*

22. Radio and Television Reception Mitigation Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Radio and Television Reception Mitigation Plan to the Scottish Ministers for approval, in consultation with the Highland Council. The Radio and Television Reception Mitigation Plan shall provide for a baseline radio and television reception survey to be carried out prior to the installation of any turbine forming part of the Development. The results of the baseline radio and television reception survey shall be submitted to the Highland Council prior to the installation of any turbine forming part of the Development.

The approved Radio and Television Reception Mitigation Plan shall be implemented in full.

Any claim by any person regarding radio or television interference at their house, business premises or other building, made during the period from installation of any turbine forming part of the Development to the date falling twelve months after the Date of Final Commissioning shall be investigated by a qualified engineer and the results of the investigation shall be considered against the approved plan and submitted to the Highland Council.

Should any impairment to the radio or television signal be attributable to the Development, the impairment shall be remedied so that the standard of reception at the affected property is equivalent to the baseline radio or television

reception.

Reason: *To mitigate any potential impacts on radio and television reception.*

23. Noise Measurement and Mitigation Scheme

1. The rating level of noise immissions from the combined effects of the wind turbines forming part of the Development (including the application of any tonal penalty) when determined in accordance with the Highland Council guidance notes for this condition shall not exceed a value of 34 dBLA90,10 minute at any dwelling which is lawfully existing or has planning permission at the date of this consent.

2. The Company shall continuously log power production, wind speed and wind direction. These data shall be retained for a period of not less than 24 months. The Company shall provide this information to the Scottish Ministers within 14 days of receipt in writing of a request to do so.

3. Prior to the Date of First Commissioning, the Company shall have submitted to, and received written approval of the Scottish Ministers, in consultation with the Highland Council, to an updated predictive noise assessment based on the final turbine model(s) to be installed, based on noise emission data from the turbine manufacturer.

4. Within 21 days from receipt of a written request from the Scottish Ministers following a complaint sent to them from the Highland Council, informing of an occupant of a dwelling alleging noise disturbance at that dwelling, the Company shall, at its expense, employ a consultant to assess the level of noise immissions from the wind farm at the complainant's property. The written request from the Scottish Ministers shall set out at least the date, time, and location to which the complaint relates and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Scottish Ministers, in consultation with the Highland Council, the noise giving rise to the complaint contains or is likely to contain a tonal component.

5. The assessment of the rating level of noise immissions in terms of paragraph (4) above shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Scottish Ministers, in consultation with the Highland Council. The protocol shall include at least the proposed measurement location(s) where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Scottish Ministers under paragraph (4) above.

6. The Company shall provide to the Scottish Ministers the independent consultant's assessment of the rating level of noise immissions within two

months of the date of the written request of the Scottish Ministers for compliance measurements to be made under paragraph (4) unless the time limit is extended in writing by the Scottish Ministers. Certificates of calibration of the instrumentation used to undertake the measurements shall be submitted to the Scottish Ministers with the independent consultant's assessment of the rating level of noise immissions.

7. Where a further assessment of the rating level of noise immissions from the wind farm is required, the Company shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to paragraph (4) above unless the time limit has been extended in writing by the Scottish Ministers.

***Reason**: In the interests of safeguarding residential amenity, to protect nearby residents from undue noise and disturbance, to enable prompt investigation of complaints and to ensure that noise levels can be measured to assess whether or not agreed noise limits have been breached and where such noise limits have been breached, suitable mitigation is undertaken.*

24. Development Specification and Layout Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Development Specification and Layout Plan ("DSLP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the MCA, NLB, NatureScot, MOD, CAA, SFF, the UK Hydrographic Office ("UKHO"), the Highland Council, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The DSLP must include, but not be limited to the following:

a. A plan showing the location of each individual WTG (subject to any required micro-siting), including information on WTG spacing, WTG identification/numbering, seabed conditions, bathymetry, confirmed foundation type for each WTG and any key constraints recorded on the site;
b. A list of latitude and longitude co-ordinates accurate to three decimal places of minutes of arc for each WTG. This should also be provided as a Geographic Information System ("GIS") shape file using WGS84 format;
c. The grid coordinates of the centre point of the proposed location for each WTG;
d. A table or diagram of each WTG dimensions including - height to blade tip (measured above Lowest Astronomical Tide ("LAT")) to the highest point, height to hub (measured above LAT to the centreline of the generator shaft), rotor diameter and maximum rotation speed;
e. The generating output of each WTG used on the site (Figure 1) and a confirmed generating output for the site overall;
f. The finishes for each WTG (see condition 16 on WTG lighting and marking); and
g. The length and proposed arrangements on the seabed of all inter-array cables.

Reason: *To confirm the final Development specification and layout.*

25. Design Statement

The Company must, no later than six months prior to the Commencement of the Development, submit a DS, in writing, to the Scottish Ministers. The DS, which must be signed off by at least one qualified landscape architect, as instructed by the Company prior to submission to the Scottish Ministers, must include representative wind farm visualisations from key viewpoints as agreed with the Scottish Ministers, based upon the final DSLP as approved by the Scottish Ministers as updated or amended. The Company must provide the DS, for information only, to the Highland Council, NatureScot, MCA and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

Reason: *To ensure that the Development is carried out in accordance with the approved details, and to inform interested parties of the final wind farm scheme proposed to be built.*

26. Piling Strategy

If piling is to be undertaken, the Company must, no later than six months prior to the Commencement of the Development, submit a PS, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, and any such other advisors as may be required at the discretion of the Scottish Ministers. Commencement of the Development cannot take place until such approval is granted.

The PS must include, but not be limited to:

a. Details of expected noise levels from pile-drilling/driving in order to inform point d) below;
b. Full details of the proposed method and anticipated duration of piling to be carried out at all locations;
c. Details of soft-start piling procedures and anticipated maximum piling energy required at each pile location; and
d. Details of any mitigation such as Passive Acoustic Monitoring (“PAM”), Marine Mammal Observers (“MMO”), use of Acoustic Deterrent Devices (“ADD”) and monitoring to be employed during pile-driving, as agreed by the Scottish Ministers.

The PS must be in accordance with the Application and must also reflect any relevant monitoring or data collection carried out after submission of the Application. The PS must demonstrate the means by which the exposure to and/or the effects of underwater noise have been mitigated in respect to cetaceans, harbour seal, grey seal, and Atlantic salmon. The PS must, so far as is reasonably practicable, be consistent with the EMP, the PEMP, and the CMS.

Reason: *To mitigate the underwater noise impacts arising from piling activity.*

27. Environmental Clerk of Works

Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with NatureScot, appoint an independent Environmental Clerk of Works ("ECoW"). The ECoW must be appointed in time to review and approve the draft version of the first plan or programme submitted under this consent to the Scottish Ministers, in sufficient time for any pre-construction monitoring requirements, and remain in post until a date agreed by the Scottish Ministers. The terms of appointment must also be approved by the Scottish Ministers in consultation with NatureScot.

The terms of the appointment must include, but not be limited to:

a. Quality assurance of final draft versions of all plans and programmes required under this marine licence;
b. Responsible for the monitoring and reporting of compliance with the marine licence conditions and the environmental mitigation measures for all wind farm infrastructure;
c. Provision of on-going advice and guidance to the Company in relation to achieving compliance with conditions, including but not limited to the conditions relating to and the implementation of the CMS, the EMP, the PEMP, the CaP and the VMP;
d. Provision of reports on point b & c above to the Scottish Ministers at timescales to be determined by the Scottish Ministers;
e. Induction and toolbox talks to onsite construction teams on environmental policy and procedures, including temporary stops and keeping a record of these;
f. Monitoring that the Development is being constructed in accordance with the plans and this consent, the Application and in compliance with all relevant regulations and legislation;
g. Reviewing and reporting incidents/near misses and reporting any changes in procedures as a result to the Scottish Ministers; and
h. Agreement of a communication strategy with the Scottish Ministers.

Reason: *To ensure effective monitoring of, and compliance with, the environmental mitigation and management measures associated with the Development.*

28. Fisheries Liaison Officer

Prior to the Commencement of the Development, a Fisheries Liaison Officer ("FLO"), must be appointed by the Company and approved, in writing, by the Scottish Ministers, following consultation with SFF. The FLO must be appointed by the Company for the period from Commencement of the Development until the Final Commissioning of the development. The identity and credentials of the FLO must be included in the EMP (referred to in condition 12). The FLO must establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea duringthe construction of the Development and ensure compliance with best practice guidelines whilst doing so.

The responsibilities of the FLO must include:

a. Establishing and maintaining effective communications between the Company, any contractors or sub-contractors, fishermen and other users

b. of the sea concerning the overall Development and any amendments to the EMP and site environmental procedures;
c. The provision of information relating to the safe operation of fishing activity on the site of the Development; and
d. Ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea.

Reason: *To mitigate the impact on commercial fishermen.*

ANNEX 3 of the Pentland Floating Offshore Wind Farm Consent

DEFINITION AND GLOSSARY OF TERMS

In this decision letter and in Annex 1 and 2:

"the Application" means the Original Application as varied by (i) the Variation 01 Application and (ii) the Variation 02 Application;

"the Original Application" means the Application letter, marine licence applications and EIA Report including appendices submitted to the Scottish Ministers by Highland Wind Limited on 11 August 2022;

"AA" means Appropriate Assessment;

"Commencement of the Development" means the date on which the first construction activity occurs in accordance with the EIA Report submitted by the Company on 11 August;

"the Company" means Highland Wind Limited, 4th Floor 115 George Street, Edinburgh, Midlothian, Scotland, EH2 4JN, Company Number: SC675148, or such other person for the time being entitled to the benefit of the consent under section 36 of the Electricity Act 1989;

"the Development" means the Highland Wind Floating Offshore Wind Farm, approximately 7.5 kilometres ("km") off the coast of Dounreay, Caithness as described in Annex 1;

"the WTG Footprint Area" means the area of sea surface occupied by the infrastructure at or above sea level (i.e. the WTGs and associated floating substructures);

"ADD" means Acoustic Deterrent Devices;

"BWM" means Ballast Water Management;

"CaSPlan" means The Caithness and Sutherland Local Development Plan 2018;

"CLO" means Community Liaison Officer;

"CREW" means Centre of Expertise for Waters;

"ECoW" means Environmental Clerk of Works;

"EIA" means Environmental Impact Assessment;

"EIA Report" means Environmental Impact Assessment Report;

"EMF" means Electromagnetic Field;

"FIR" means Fisheries Industry Representative;

"FLO" means Fisheries Liaison Officer;

“FTE” means Full Time Equivalent;

“GVA” means Gross Added Value;

“HRA” means Habitats Regulations Appraisal; “HAT” means Highest Astronomical Tide;

“HPAI” means Highly Pathogenic Avian Influenza; “km” means kilometres;

“km^2” means squared kilometres;

“LSE” means Likely Significant Effect;

“m” means metres;

“MGN 654” means Marine Guidance Note 654;

“MMO” means Marine Mammals Observers;

“mINNS” means Marine Invasive Non-Native Species;

“MPA” means Marine Protected Area;

“MW” means megawatt;

“NSA” means National Scenic Areas;

“NRTE” means Naval Reactor Test Establishment;

“PAC” means Pre-Application Consultation;

“PAM” means Passive Acoustic Monitoring;

“PI” means Public Inquiry;

“PTS” means Permanent Threshold Shift;

“PVA” means Population Viability Assessment;

“s.36” means Section 36 of the Electricity Act 1989;

“s.36A” means Section 36A of the Electricity Act 1989;

“SAC” means Special Area of Conservation;

“SAR” means Search and Rescue;

“ScotMER” means Scottish Marine Energy Research;

“SLA” means Special Landscape Areas;

“SLVIA” means Seascape, Landscape and Visual Impact Assessment;

"SPA" means Special Protected Area;

"SSSI" means Site of Special Scientific Interest;

"the Variation 01 Application" means the variation application letter and the Section 36C Consent and Marine Licence Variation Application Report submitted to the Scottish Ministers by Highland Wind Limited on 11 October 2023.

"the Variation 02 Application" means the variation application letter and the Section 36C Consent and Marine Licence Variation Application Report submitted to the Scottish Ministers by Highland Wind Limited on 27 January 2026.

"UXO" means Unexploded Ordnance;

"WLA" means Wild Land Areas;

"WTG" means Wind Turbine Generator.

Organisations and Companies

"BT" means British Telecommunications;

"CAA" means Civil Aviation Authority;

"DAERA" means Department of Agriculture, Environment and Rural Affairs;

"DSFB" means District Salmon Fishery Board;

"HIAL" means Highlands and Islands Airports Limited;

"HES" means Historic Environment Scotland;

"EU" means European Union;

"MAU" means Marine Analytical Unit;

"MCA" means Maritime and Coastguard Agency;

"MOD" means Ministry of Defence;

"MD-LOT" means Marine Directorate – Licensing Operations Team (previously known as "MS-LOT", Marine Scotland – Licensing Operations Team);

"MD-SEDD" (formerly known as "MSS", Marine Scotland Science) means Marine Directorate – Science, Evidence Data, and Digital;
"NDA" means Nuclear Decommissioning Authority;

"NLB" means Northern Lighthouse Board;

"RSPB" means Royal Society for the Protection of Birds;

"RYA" means Royal Yachting Association;

“SEPA” means Scottish Environmental Protection Agency;

“SFF” means Scottish Fishermen’s Federation; “UKCoS” means United Kingdom Chamber of Shipping;

Plans, Programmes and Statements

“CaP” means Cable Plan;

“CBRA” means Cable Burial Risk Assessment;

“CMS” means Construction Method Statement;

“CoP” means Construction Programme;

“DS” means Design Statement;

“DSLP” means Development Specification and Layout Plan;

“EMP” means Environmental Management Plan;

“FMMS” means Fisheries Management and Mitigation Strategy;

“LMP” means Lighting and Marking Plan;

“NMP” means National Marine Plan;

“NPF3” means Scotland’s National Planning Framework 3;

“NPF4” means Scotland’s National Planning Framework 4;

“NSP” means Navigational Safety Plan;

“OMP” means Operation and Maintenance Programme;

“PAD” means Protocol for Archaeological Discoveries;

“PEMP” means Project Environmental Management Plan;

“PMP” means Particles Management Plan;

“PS” means Piling Strategy;

“VMP” means Vessel Management Plan;

“WSI” means Written Scheme of Investigation.

Legislation

“the Electricity Act” means the Electricity Act 1989;

“the Habitats Regulations” means the Conservation (Natural Habitats, & c.) Regulations 1994 and the Conservation of Habitats and Species Regulations 2017;

“the 2017 EW Regulations” means the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;

“the 2017 MW Regulations” means the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

Appendix 2 – Draft Revised OWF Marine Licence

Scottish Government
Riaghaltas na h-Alba

MARINE (SCOTLAND) ACT 2010, PART 4 MARINE LICENSING

LICENCE TO CONSTRUCT, ALTER OR IMPROVE WORKS IN THE SCOTTISH MARINE AREA

Licence Number: **MS-00010578**

The Scottish Ministers (hereinafter referred to as "the Licensing Authority") hereby grant a marine licence authorising:

Highland Wind Limited
4th Floor,
115 George Street,
Edinburgh
EH2 4JN

to construct, alter or improve works as described in Part 2. The licence is subject to the conditions set out, or referred to, in Part 3.

The licence is valid from **05 April, 2024** until **05 March, 2050** or until the Works have been decommissioned in accordance with an approved Decommissioning Programme prior to this date and for which a separate marine licence is required.

Signed: ……..
Toni-Marie Mcginn

For and on behalf of the Licensing Authority

Date of issue: 03 April, 2024

1. PART 1 - GENERAL

1.1 Interpretation

In the licence, terms are as defined in Section 1, 64 and 157 of the Marine Scotland Act 2010, and

"ADD" means Acoustic Deterrent Devices;
"CAA" means Civil Aviation Authority;
"CoP" means Construction Programme;
"CaP" means Cable Plan;
"CMS" means Construction Method Statement;
"Commencement of the Licensed Activity" means the date on which the first vehicle or vessel arrives on the site to begin carrying on any activities in connection with the Licensed Activity;
"Completion of the Licensed Activity" means the date on which the Licensed Activity has been installed in full, or the Licensed Activity has been deemed complete by the Licensing Authority, whichever occurs first;
"DS" means Design Statement;
"DSLP" means Development Specification and Layout Plan;
"DP" means Decommissioning Programme;
"ECoW" means Environmental Clerk of Works;
"EMF" means Electromagnetic Field;
"EMP" means Environmental Management Plan;
"Final Commissioning of the Works" means the date on which the last wind turbine generator constructed forming the Works has supplied electricity on a commercial basis to the National Grid, or such earlier date as the Licensing Authority deems the Works to be complete;
"FLO" means Fisheries Liaison Officer;
"FMMS" means Fisheries Management and Mitigation Strategy;
"GIS" means Geographic Information System;
"HAT" means Highest Astronomical Tide;
"HES" means Historic Environment Scotland;
"IALA" means International Association of Marine Aids to Navigation and Lighthouse Authorities;
"LAT" means Lowest Astronomical Tide;
"Licensed Activity" means any activity or activities listed in section 21 of the 2010 Act which is, or are authorised under the licence;
"Licensee" means Highland Wind Limited (Company Number: SC675148) having its registered office at 4th Floor 115 George Street, Edinburgh, Midlothian, Scotland, EH2 4JN;
"LMP" means Lighting and Marking Plan;
"MCA" means Maritime and Coastguard Agency;
"Mean High Water Springs" means any area submerged at mean high water spring tide;
"MGN" means Marine Guidance Note;
"MMO" means Marine Mammal Observers;
"MOD" means Ministry of Defence;
"NLB" means Northern Lighthouse Board;
"Noise Registry" means the marine noise registry developed by the Department for Environment, Food and Rural Affairs and the Joint Nature Conservation Committee to record human activities in UK seas that produce loud loww to medium frequency (10 Hz-10 kHz) impulsive noise;
"NSP" means Navigational Safety Plan;
"OMP" means Operational and Maintenance Programme;
"PAD" means Protocol for Archaeological Discoveries;
"PAM" means Passive Acoustic Monitoring;
"PEMP" means Project Environmental Management Programme;
"PMP" means Particles Management Plan;
"PS" means Piling Strategy;
"RSPB Scotland" means Royal Society for the Protection of Birds Scotland;
"RYA" means Royal Yachting Association;
"ScotMER" means Scottish Marine Energy Research;
"SEPA" means Scottish Environment Protection Agency;
"SFF" means Scottish Fishermen's Federation;

"the 2010 Act" means the Marine (Scotland) Act 2010;
"the Works" Construction and operation of offshore generating system consisting of up to 6 floating Wind Turbine Generators;
"the Application" means the Original Application as varied by (i) the Variation 01 Application and (ii) the Variation 02 Application.
"the Original Application" means the Application letter, marine licence applications and Environmental Impact Assessment Report including appendices submitted to the Scottish Ministers by Highland Wind Limited on 11 August 2022;
"~~the~~ Variation 01 Application" means the variation application letter and the Section 36C Consent and Marine Licence Variation Application Report submitted to the Scottish Ministers by Highland Wind Limited on 11 October 2023;
"**Variation 02 Application**" means the variation application letter and the Section 36C Consent and Marine Licence Variation Application Report submitted to the Scottish Ministers by Highland Wind Limited on 27 January 2026;
"TPC" or **"TPV"** means Third Party Certification or Verification;
"UKHO" means UK Hydrographic Office;
"VMP" means Vessel Management Plan;
"WSI" means Written Scheme of Investigation;
"WTG" means Wind Turbine Generator;
"the WTG Footprint Area" means the area of sea surface occupied by the infrastructure at or above sea level (i.e. the WTGs and associated floating substructure).

All geographical co-ordinates contained within the licence are in WGS84 format (latitude and longitude degrees and minutes to three decimal places) unless otherwise stated.

1.2 Contacts

All correspondence or communications relating to the licence should be addressed to:

Marine Directorate - Licensing Operations Team
375 Victoria Road
Aberdeen
AB11 9DB
Email: MS.Marinelicensing@gov.scot

1.3 Other authorisations and consents

The Licensee is deemed to have satisfied itself that there are no barriers or restrictions, legal or otherwise, to the carrying on of the Licensed Activities in connection with the Licensed Activity. The issuing of the licence does not absolve the Licensee from obtaining such other authorisations and consents, which may be required under statute.

1.4 Variation, suspension, revocation and transfer

Under section 30 (1) of the 2010 Act the Licensing Authority may by notice vary, suspend or revoke the licence granted by them if it appears to the Licensing Authority that there has been a breach of any of its provisions. For any such other reason that appears to be relevant to the Licensing Authority under section 30(2) or (3) of the 2010 Act. Under the 2010 Act variations, suspensions, revocations and transfers of licences are subject to the procedures set out in section 31 of the Act.
Under section 30 (7) of the 2010 Act, on an application made by a Licensee, the Licensing Authority may vary a licence if satisfied that the variation being applied for is not material.
Under section 30 (8) of the 2010 Act, on an application made by the Licensee, the Licensing Authority may transfer the licence from the Licensee to another person.

1.5 Breach of requirement for, or conditions of, licence

Under section 39 of the 2010 Act it is an offence to carry on a Licensable Marine Activity without a marine licence and it is also an offence to fail to comply with any condition of a marine licence.

1.6 Defences: actions taken in an emergency

Under section 40 of the 2010 Act it is a defence for a person charged with an offence under section 39(1) of the 2010 Act in relation to any activity to prove that –
the activity was carried out for the purpose of saving life, or for the purpose of securing the safety of a vessel, aircraft or marine structure (‘force majeure'), and
that the person took steps within a reasonable time to inform the Licensing Authority as set out in section 40(2) of the 2010 Act.

1.7 Offences relating to information

Under section 42 of the 2010 Act it is an offence for a person to make a statement which is false or misleading in a material way, knowing the statement to be false or misleading or being reckless as to whether the statement is false or misleading, or to intentionally fail to disclose any material information for the purpose of procuring the issue, variation or transfer of a marine licence or for the purpose of complying with, or purporting to comply with, any obligation imposed by either Part 4 of the 2010 Act or the provisions of this licence.

1.8 Appeals

Under Regulation 3(1) of the Marine Licensing Appeals (Scotland) Regulations 2011 a person who has applied for a marine licence may by summary application appeal against a decision taken by the Licensing Authority under section 71(1)(b) or (c) or (5) of the Act.

2. PART 2 – PARTICULARS

2.1 Agent

Highland Wind Limited
4th Floor,
115 George Street,
Edinburgh
EH2 4JN

2.2 Location of the Licensed Activity

Pentland Floating Offshore Wind Farm (Offshore Array Area),

58° 40.445' N 03° 51.014' W
58° 40.427' N 03° 53.600' W
58° 38.290' N 03° 50.962' W
58° 38.272' N 03° 53.545' W

As shown in Annex One.

2.3 Description of the Licensed Activity

The Application is for the construction and operation of an offshore energy generating station, with a generating capacity of around 100 megawatts ("MW"). The offshore generating station shall be comprised of up to:

1. ~~Five~~ Six floating offshore wind turbine generators ("WTGs") with:
   a. A maximum hub height of 190 metres ("m") above highest astronomical tide ("HAT"),
   b. A maximum height to blade tip of 300m above HAT,
   c. A maximum rotor diameter of 26~~5~~0m, and,
   d. A minimum blade tip clearance from mean sea level of ~~35m~~28m, save where six WTGs with a rotor diameter over 236m are constructed, when it must be a minimum of 30m;

~~2. One floating offshore WTG with:~~
   ~~a. A maximum hub height of 190 m above HAT,~~
   ~~b. A maximum height to blade tip of 300m above HAT,~~
   ~~c. A maximum rotor diameter of 220m, and,~~
   ~~d. A minimum blade tip clearance from mean sea level of 35m;~~

~~3.~~2. Six associated floating substructures;

~~4.~~3. Nine mooring lines for each floating substructure, 54 in total;

~~5.~~4. Nine anchors or piles for each floating substructures, 54 in total;

~~6.~~5. Seven inter-array cables (dynamic and static);

~~7.~~6. Associated scour and cable protections;

and, except to the extent modified by the foregoing, all as described in the Application and the Variation Application and by the conditions imposed by the Scottish Ministers.

The total area within the Development site boundary is 10 square kilometres ("km2") of which up to 5.85km2 will comprise the WTG Footprint Area. The location and boundary of the Development site is shown in Annex 1.

2.4 Descriptions of the materials to be used during the Licensed Activity

The licence authorises the use of the undernoted construction materials required in connection with the licensed activity, subject to the indicative amounts as specified below:

Steel/Iron - 167,466 Tonnes
Plastic/Synthetic - Trace amounts of synthetics embedded in scour protection solutions
Concrete - 259,305 m3
Sand - 117,880 m3
Stone/Rock/Gravel - 117,880 m3
Concrete Bags/Mattresses - 117,880 m3
Cable - 20,000 m
Composite Plastic - 490 Tonnes
Synthetic Rope - 47,250 m

2.5 Contractor and Vessel Details

To be confirmed.

3. PART 3 – CONDITIONS

3.1 General Conditions

3.1.1 The Licensee must only construct the Works in accordance with this licence, the Application and any plans or programmes approved by the Licensing Authority unless otherwise authorised by the Licensing Authority.

3.1.2 The Licensee must maintain the Works in accordance with this licence, the Application and any plans or programmes approved by the Licensing Authority unless otherwise authorised by the Licensing Authority.

3.1.3 All conditions attached to the licence bind any person who for the time being owns, occupies or enjoys any use of the Works, whether or not the licence has been transferred to that person

3.1.4 Only the materials listed in Part 2 of the licence may be used during the execution of the Licensed Activity.

3.1.5 All materials, substances and objects used during the execution of the Licensed Activity must be inert and must not contain toxic elements which may be harmful to the marine environment, the living resources which it supports or human health.

3.1.6 The Licensee must ensure that the Licensed Activity does not encroach on any recognised anchorage, either charted or noted in nautical publications, within the licensed area as described in Part 2 of the Licence.

3.1.7 Where any damage, destruction or decay is caused to the Works, the Licensee must notify the Licensing Authority, Maritime and Coastguard Agency ("MCA"), Northern Lighthouse Board ("NLB"), Kingfisher Information Services of Seafish and the UK Hydrographic Officer, in writing, of such damage, destruction or decay as soon as reasonably practicable but no later than 24 hours after becoming aware of any such damage, destruction or decay. The Licensee must carry out any remedial action as required by the Licensing Authority, following consultation with the MCA, NLB or any such advisors as required by the Licensing Authority.

The Licensee must remove the materials, from below the level of Mean High Water Springs, or make such alterations as advised by the Licensing Authority, at timescales to be determined by the Licensing Authority at any time it is considered necessary or advisable for the safety of navigation, and not replace those materials without further approval by the Licensing Authority. The Licensee shall be liable for any expense incurred.

3.1.8 If governmental assistance is required (including UK governmental assistance or the assistance of any UK devolved government) to deal with any emergency arising from:

a) The failure to mark and light the Works as required by the licence;

b) The maintenance of the Works; or

c) The drifting or wreck of the Works, to include the broadcast of navigational warnings then the Licensee

is liable for any expenses incurred in securing such assistance.

3.1.9 The Licensee must take all measures which are technically and economically feasible to minimise leakage of fluorinated greenhouse gases. Where leakage of fluorinated greenhouse gases is detected, the Licensee must ensure that the equipment is repaired without undue delay.

The Licensee must ensure that all equipment to be utilised in the Licensed Activity that contains fluorinated greenhouse gases in quantities of five tonnes or more of CO^2 equivalent and not contained in foams is checked for leakage in accordance with Article 4 of the F-Gas Regulation. Records of these checks must be kept in accordance with Article 6 of the F-Gas Regulation. These records must be submitted to the Licensing Authority annually and immediately in the event of discovery of leakage.

Where the equipment is subject to checks for leakage under Article 4(1) of the F-Gas Regulation and leakage in the equipment has been repaired, the Licensee must ensure that the equipment is checked by a suitably certified person within one calendar month after the repair to verify that the repair has been effective. In such event, the Licensing Authority must be informed of the date of discovery, date of repair and date of inspection.

3.1.10 The Licensee must seek prior written approval from the Licensing Authority for any chemicals in an open system which are to be utilised in the construction, operation and maintenance of the Licensed Activity. Requests for approval must be submitted in writing to the Licensing Authority no later than one month prior to its intended use or such other period as agreed by the Licensing Authority. The Licensee must ensure that no chemicals are used in an open system without the prior written approval of the Licensing Authority.

If the proposed chemical is on the Offshore Chemical Notification Scheme list, the approval request must include the chemical name, volume or quantity to be used, the Offshore Chemical Notification Scheme list grouping or rank and the proposed frequency of use.

If the proposed chemical is not on the Offshore Chemical Notification Scheme list, the approval request must include details of chemicals to be used, including safety data sheet, depth and current at the site of the Works, quantities or volumes and the proposed frequency of use.

The Licensee must notify the Licensing Authority of the types of chemicals to be used in a closed containment system prior to use.

The Licensee must take all practicable steps to avoid leakages from a closed containment system into the Scottish marine area. Any such leakages must be reported to the Licensing Authority as soon as practicable.

3.1.11 The Licensee must submit all reports and notifications to the Licensing Authority, in writing, as are required under this licence within the time periods specified in this licence. Where there may be a delay in the submission of the reports or notifications to the Licensing Authority, the Licensee must advise the Licensing Authority of this fact as soon as is practicable and no later than the time by which those reports or notifications ought to have been submitted to the Licensing Authority under the terms of this licence.

The reports must include executive summaries, assessments and conclusions and any data will, subject to any rules permitting non-disclosure, be made publicly available by the Licensing Authority or by any such party appointed at its discretion.

Reports prepared pursuant to another consent or licence relating to the Works by the Licensee or by a third party may also be used to satisfy the requirements of this licence.

Such reports will include, but not be limited to Marine Mammal Observer ("MMO") records and all appropriate reports stipulated within the Project Environment Monitoring Plan ("PEMP").

3.1.12 The Licensee must operate and maintain the Works in accordance with the approved Operation and Maintenance Programme ("OMP") (see condition 3.2.16). The Licensing Authority must be notified at least three calendar months, or such other period as agreed by the Licensing Authority in advance, of any maintenance of the Licensed Activity not included in the OMP and involving licensable marine activities not covered under this licence.

3.1.13 In the event of the Licensed Activity being discontinued the materials used under the authority of this licence must be removed to the satisfaction of the Licensing Authority.

3.1.14 The Licensee must ensure that the Works are maintained at all times in good repair.

3.1.15 The Licensee must ensure that the Licensed Activity is only carried out at the location of the Licensed Activity specified in Part 2 of this licence. The WTGs must be constructed only at the locations specified in Part 2 of this licence.

3.1.16 There must be no Commencement of the Licensed Activity until a Decommissioning Programme ("DP"), as defined in any section 105 notice served by the appropriate Minister, has been approved under section 106 of the Energy Act 2004 by the Licensing Authority.

3.1.17 The Licensee must submit plans and the details and specifications of all studies and surveys that are required to be undertaken under this licence in relation to the Licensed Activity, in writing, to the Licensing Authority for its written approval. Commencement of the studies or surveys and implementation of plans must not occur until the Licensing Authority has given its written approval to the Licensee.

Plans or the specification of studies and surveys prepared pursuant to another consent or licence relating to the Licensed Activity by the Licensee or by a third party may also be used to satisfy the requirements of this licence.

Any updates or amendments made to the approved plans must be submitted, in writing, to the Licensing Authority for its prior written approval. The Works must, at all times, be constructed and operated in accordance with the approved plans.

3.1.18 The Licensee must ensure that any debris or waste materials arising during the course of the Licensed Activity are removed for disposal at an approved location above the tidal level of Mean High Water Springs.

3.1.19 The Licensee must ensure that copies of this licence are available for inspection by any authorised marine enforcement officer at:

a) The premises of the Licensee;

b) The premises of any agent acting on behalf of the Licensee; and

c) The site of the Licensed Activity.

3.1.20 Any person authorised by the Licensing Authority must be permitted to inspect the Works at any reasonable time. The Licensee must, on being given reasonable notice by the Licensing Authority (of at least 72 hours), provide transportation to and from the site for any persons authorised by the Licensing Authority to inspect the site of the Works. The Licensee shall be liable for any expense incurred.

3.1.21 The Licensee must inform the local Fishery Office(s) in writing at least five days prior to the Commencement of the Licensed Activity, or any part thereof, and within five days of Completion of the Licensed Activity.

The Kingfisher Information Service of Seafish, must be informed of details of the vessel routes, timings and locations relating to the construction of the authorised project or any part thereof by email to kingfisher@seafish.co.uk:

a) at least 14 days prior to the commencement of offshore activities, for inclusion in the Kingfisher Fortnightly Bulletin and offshore hazard awareness data, and;

b) as soon as reasonably practicable and no later than 24 hours of completion of all offshore activities.

Confirmation of notification must be provided to the Licensing Authority within five days.

The Licensee must ensure that a local notification to mariners is issued at least 14 days prior to the Commencement of the Licensed Activity, or any part thereof, advising of the start date and the expected vessel routes from the construction ports to the relevant location. Copies of all notices must be provided to the Licensing Authority, MCA and UKHO within five days.

The Licensee must ensure that local notifications to mariners are updated and reissued at weekly intervals during construction activities and at least five days before any planned operations (or otherwise agreed) and maintenance works and supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme approved under deemed marine licence condition 3.2.12.

Copies of all notices must be provided to the Licensing Authority and UKHO within five days.

The Licensee must notify the UKHO of the completion (within 14 days) of the Licensed Activity, or any part thereof, in order that all necessary amendments are made to nautical charts.

Copies of all notices must be provided to the Licensing Authority and MCA within five days.

In case of damage to, or destruction or decay of, the Licensed Activity seaward of Mean High Water Springs, or any part thereof, excluding the exposure of cables, the Licensee shall as soon as reasonably practicable and no later than 24 hours following the undertaker becoming aware of any such damage, destruction or decay, notify the Licensing Authority, MCA, NLB, the Kingfisher Information Service of Seafish and the UKHO.

In case of exposure of cables on or above the seabed, the Licensee must within three days following identification of a potential cable exposure, notify mariners and inform Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the Licensing Authority, MCA, NLB, and the UKHO within five days.

3.1.22 The Licensed Activity shall be undertaken in accordance with the Schedule of Mitigation contained within Chapter 22 of the Environmental Impact Assessment Report unless otherwise agreed in advance in writing with the Licensing Authority.

3.2 Prior to the Commencement of the Licensed Activity

3.2.1 The Licensee must, prior to and no less than one calendar month before the Commencement of the Licensed Activity, notify the Licensing Authority, in writing, of the proposed date of the Commencement of the Licensed Activity authorised under this licence.

3.2.2 The Licensee must ensure that at least five days prior to its engagement in the Licensed Activity, the name and function of any vessel (including the master's name, vessel type, vessel international maritime organisation number and vessel owner or operating company), agent, contractor or subcontractor appointed to engage in the Licensed Activity are fully detailed in contractor and vessel reports ("the Reports") which the Licensee must make available on its website: https://pentlandfloatingwind.com/. Any changes to the supplied details must be uploaded to the Reports and the Licensing Authority and relevant statutory harbour authority must be notified, in writing, prior to any vessel, agent, contractor or sub-contractor which has not yet been notified to the Licensing Authority engaging in the Licensed Activity. Only those vessels, agents, contractors or sub-contractors detailed in the Reports are permitted to carry out any part of the Licensed Activity. Any vessels involved in drilling and deposit of drilling arisings must be notified to the Licensing Authority. The Licensee must satisfy itself that any masters of vessels or vehicle operators, agents, contractors or sub-contractors are aware of the extent of the Licensed Activity and the conditions of this licence.

All masters of vessels or vehicle operators, agents, contractors and sub-contractors permitted to engage in the Licensed Activity must abide by the conditions of this licence.

The Licensee must give a copy of this licence, and any subsequent variations made to this licence in accordance with section 30 of the 2010 Act, to the masters of any vessels, vehicle operators, agents, contractors or sub-contractors permitted to engage in the Licensed Activity and must ensure that the licence and any such variations are read and understood by those persons.

3.2.3 The Licensee must complete and send a Marine Emergency Action Card for the Licensed Activity to oelo@mcga.gov.uk at least 10 working days prior to Commencement of the Licensed Activity.

3.2.4 The Licensee must contact the relevant statutory harbour authority, prior to Commencement of the Licensed Activity to discuss the requirements for navigational warnings and a works licence.

The Licensee must ensure that a communications procedure is established and agreed with the relevant statutory harbour authority prior to the Commencement of the Licensed Activity.

3.2.5 The Licensee must ensure that all personnel adhere to the Scottish Marine Wildlife Watching Code where appropriate during the Licensed Activity.

3.2.6 There must be no Commencement of the Licensed Activity until the Licensee has satisfied the Licensing Authority, by consultation with the MCA, that it has taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note ("MGN") 654, and its annexes, or any other relevant document which may supersede this guidance.

3.2.7 Prior to the Commencement of the Licensed Activity, the Licensee must appoint a Marine Mammal Observer ("MMO"). When appointed, the MMO must, as a minimum, maintain a record of any sightings of marine mammals and maintain a record of the action taken to avoid any disturbance being caused to marine mammals during noisy activities.

The Licensee must ensure that all personnel adhere to the Scottish Marine Wildlife Watching Code where appropriate during all alteration and improvement activities authorised under this licence.

3.2.8 The Licensee must, no later than one calendar month prior to Commencement of the Licensed Activity, notify the UKHO of the proposed works to facilitate the promulgation of maritime safety information and updating of admiralty charts and publications through the national Notice to Mariners system.

The Licensee must, no later than one calendar month prior to Commencement of the Licensed Activity, ensure that local mariner's organisations and local fishermen's organisations and HM Coastguard are made fully aware of the Works through local Notice to Mariners or by any other appropriate means.

The Licensee must ensure that details of the Licensed Activities are promulgated in the Kingfisher Fortnightly Bulletin, no later than one calendar month prior to the Commencement of the Licensed Activity to inform the commercial fishing industry of the vessel routes and the timing and location of the construction activities.

The Licensee must, no later than eight weeks prior to the Commencement of the Licensed Activity, complete an "Application for Statutory Sanction to Alter/Exhibit" form and submit this to the NLB for the necessary sanction to be granted for the deployment of the Construction Buoyage.

3.2.9 The Licensee must, no later than 10 days prior to Commencement of the Licensed Activity, notify the UK Hydrographic Office ("UKHO") at sdr@ukho.gov.uk, of the proposed Licensed Activity. The notification must include the start and end date of the Licensed Activity, a description of the Works, positions of the area of the Works (WGS84), and details of any marking arrangements. A copy of the notification must be sent to the Licensing Authority within five working days of the notification being sent.

The Licensee must ensure that local mariners and fishermen's organisations are made fully aware of the Works through a local notification. This must be issued at least five days before the Commencement of the Licensed Activity. The Licensing Authority must be sent a copy of this notification within 24 hours of issue.

The Licensee must, no later than seven days prior to the Commencement of the Licensed Activity, notify Zone4@hmcg.gov.uk and renewables@hmcg.gov.uk of the proposed Licensed Activity. A copy of the notification must be sent to the Licensing Authority within five working days of the notification being sent.

The Licensee must ensure that details of the Licensed Activity are promulgated in the Kingfisher Fortnightly Bulletin, no later than seven days prior to the Commencement of the Licensed Activity to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Licensed Activity and of the relevant operations.

3.2.10 The Licensee must notify the Ministry of Defence ("MOD"), at least 14 days prior to the Commencement of the Licensed Activity, in writing of the following information:

a) The date of the commencement of the erection of WTG;

b) The maximum height of any construction equipment to be used in the erection of the wind turbines;

c) The date any WTG are brought into use;

d) The latitude and longitude and maximum heights of each WTG, and any anemometer mast(s).

3.2.11 The Licensee must, no later than three calendar months prior to the Commencement of the Licensed Activity, provide the Licensing Authority with Third Party Certification or Verification ("TPC" or "TPV") (or a suitable alternative as agreed in writing with the Licensing Authority) that covers the entirety of the Works for the lifespan of the Works.

In this condition, the term "lifespan" means the entire period that this licence remains in force.

The TPC or TPV must follow the guidance provided in the Offshore wind, wave and tidal energy applications: consenting and licensing manual.

https://www.gov.scot/publications/marine-licensing-applications-and-guidance/ or any other relevant document which may supersede this. There must be no Commencement of the Licensed Activity unless the TPC or TPV is provided as described above unless otherwise agreed with the Licensing Authority.

3.2.12 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a Construction Programme ("CoP"), in writing, to the Licensing Authority for its written approval. Commencement of the Licensed Activity cannot take place until such approval is granted. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, Civil Aviation Authority ("CAA"), MOD, and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The CoP must set out:

a) The proposed date for Commencement of the Licensed Activity;

b) The proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;

c) The proposed timings and sequencing of construction work for all elements of the Works infrastructure;

d) Contingency planning for poor weather or other unforeseen delays; and

e) The scheduled date for Completion of the Licensed Activity and Final Commissioning of the Works.

The Licensee must send the approved CoP to The Highland Council, MCA and NLB for information only.

3.2.13 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity submit a Construction Method Statement ("CMS"), in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, MCA, NLB and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The CMS must include, but not be limited to:

a) Details of the commencement dates, duration and phasing for the key elements of construction, the working areas, the construction procedures and good working practices for installing the Works;

b) Details of the roles and responsibilities, chain of command and contact details of company personnel, any contractors or sub-contractors involved during the construction of the Works; and

c) Details of how the construction related mitigation steps proposed in the Application are to be delivered.

The CMS must adhere to the construction methods assessed in the Application. The CMS also must, so far as is reasonably practicable, be consistent with the Design Statement ("DS"), the Environmental Management Plan ("EMP"), the Vessel Management Plan ("VMP"), the Navigational Safety Plan ("NSP"), the Piling Strategy ("PS"), the Cable Plan ("CaP") and the Lighting and Marking Plan ("LMP").

The final CMS must be sent to the Highland Council for information only.

3.2.14 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit an Environmental Management Plan ("EMP"), in writing, to the Licensing Authority for its written approval. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, Royal Society for the Protection of Birds Scotland ("RSPB Scotland"), and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The EMP must provide the over-arching framework for on-site environmental management during the phases of the Works as follows:

a) All construction as required to be undertaken before the Final Commissioning of the Works; and

b) The operational lifespan of the Works from the Final Commissioning of the Works until the cessation of electricity generation (environmental management during decommissioning is addressed by the DP provided for by condition 3.1.16).

The EMP must be in accordance with the Application insofar as it relates to environmental management measures. The EMP must set out the roles, responsibilities and chain of command for the company personnel, any contractors or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and operation of the Works. It must address, but not be limited to, the following over-arching requirements for environmental management during construction:

a) Mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the Application and pre-consent and pre-construction monitoring or data collection, and include reference to relevant parts of the CMS (refer to condition 3.2.13);

b) A pollution prevention and control method statement, including contingency plans;

c) Management measures to prevent the introduction of invasive non-native marine species;

d) A site waste management plan (dealing with all aspects of waste produced during the construction period), including details of contingency planning in the event of accidental release of materials which could cause harm to the environment. Wherever possible the waste hierarchy of reduce, reuse and recycle should be encouraged; and

e) The reporting mechanisms that will be used to provide the Licensing Authority and relevant stakeholders with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The EMP must be regularly reviewed by the Licensee at intervals agreed by the Licensing Authority. Reviews must include, but not be limited to, the reviews of updated information on construction methods and operations of the Works and updated working practices.

The EMP must be informed, so far as is reasonably practicable, by the baseline monitoring or data collection undertaken as part of the Application and the PEMP.

3.2.15 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a VMP, in writing, to the Licensing Authority for their written approval. Commencement of the Licensed Activity cannot take place until such approval is granted. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, MCA, Scottish Fishermen's Federation ("SFF") and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The VMP must include, but not be limited to, the following details:

a) The number, types and specification of vessels required;

b) How vessel management will be coordinated, particularly during construction, but also during operation;

c) Location of working port(s), the routes of passage, the frequency with which vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Works.

The confirmed individual vessel details must be notified to the Licensing Authority in writing no later than 14 days prior to the Commencement of the Licensed Activity, and thereafter, any changes to the details supplied must be notified to the Licensing Authority, as soon as practicable, prior to any such change being implemented in the construction or operation of the Works.

The VMP must refer to the Scottish Marine Wildlife Watching Code and Guide to Best Practice for Watching Marine Wildlife for guidance on how vessels should behave around aggregations of birds on the water.

The VMP must, so far as is reasonably practicable, be consistent with the CMS and EMP, the Fisheries Management and Mitigation Strategy ("FMMS"), the PEMP, the NSP, and the LMP.

3.2.16 The Licensee must, no later than three months prior to the Final Commissioning of the Works, submit an OMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, MCA, NLB, The Highland Council and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The OMP must set out the procedures and good working practices for operations and the maintenance of the WTGs and substructure of the Works. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

The OMP must, so far as is reasonably practicable, be consistent with the CMS, the EMP, the PEMP, the VMP, the NSP and the LMP.

The Licensee must send the approved OMP to The Highland Council for information only.

3.2.17 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a NSP, in writing, to the Licensing Authority for their written approval. Commencement of the Licensed Activity cannot take place until such approval is granted. Such approval may only be granted following consultation by the Licensing Authority with MCA, NLB, Royal Yachting Association ("RYA"), SFF and any other navigational advisors or organisations as may be required at the discretion of the Licensing Authority.

The NSP must include, but not be limited to, the following issues:

a) Navigational safety measures;

b) Construction exclusion zones;

c) Notice(s) to mariners and radio navigation warnings;

d) Anchoring areas;

e) Temporary construction lighting and marking;

f) Buoyage.

3.2.18 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit an LMP, in writing, to the Licensing Authority for their written approval. Commencement of the Licensed Activity cannot take place until such approval is granted. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, MCA, NLB, CAA, MOD, RYA, the Highland Council, and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The LMP must provide that the Works be lit and marked in accordance with the current CAA and MOD aviation lighting policy and guidance that is in place as at the date of the Licensing Authority approval of the LMP, or any such other documents that may supersede this guidance prior to the approval of the LMP. Consideration must be given in the LMP to reducing the luminous intensity of aviation lighting in certain visibility conditions but only where this is in accordance with the current CAA and MOD aviation lighting policy and guidance that is in place. The LMP must define how the Works will be lit throughout its life to maintain civil and military aviation safety requirements as determined necessary for aviation safety by the MOD and, accordingly, must set out:

a) Details of any construction equipment and temporal structures with a total height of 50m or greater (above mean sea level) that will be deployed during the construction of the Works and details of any aviation warning lighting that they will be fitted with; and

b) The locations and heights of the WTGs featured in the Works identifying those that will be fitted with aviation warning lighting identifying the position of the lights on the WTGs, the type(s) of lights that will be fitted and the performance specification(s) of the lighting type(s) to be used.

The LMP must also detail the navigational lighting requirements detailed in the International Association of Marine Aids to Navigation and Lighthouse Authorities ("IALA") Guideline G-1162 or any other documents that may supersede this guidance prior to approval of the LMP.

3.2.19 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a PEMP, in writing, to the Licensing Authority for their written approval. Commencement of the Licensed Activity cannot take place until such approval is granted. Such approval may only be granted following consultation by the Licensing Authority with NatureScot, RSPB Scotland and any other environmental advisors or organisations as required at the discretion of the Licensing Authority. The PEMP must be in accordance with the Application as it relates to environmental monitoring.

The PEMP must set out measures by which the Licensee must monitor the environmental impacts of the Works. Monitoring is required throughout the lifespan of the Works where this is deemed necessary by the Licensing Authority. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.

The Licensing Authority must approve all initial methodologies for the above monitoring, in writing and, where appropriate, in consultation with NatureScot and any other environmental advisors or organisations as required at the discretion of the Licensing Authority.

Monitoring must be done in such a way so as to ensure that the data which is collected allows useful and valid comparisons between different phases of the Works. Monitoring may also serve the purpose of verifying key predictions in the Application. In the event that further potential adverse environmental effects are identified, for which no predictions were made in the Application, the Licensing Authority may require the Licensee to undertake additional monitoring.

The PEMP must cover the following matters:

a) Monitoring or data collection for impact on seabirds;

b) Monitoring for impacts on marine mammals;

c) Monitoring for impacts on benthic ecology;

d) Post-construction monitoring on Electromagnetic Fields ("EMF") produced by the constructed cables; and

e) The Licensee's contribution to data collection or monitoring of wider strategic relevance, including in relation to diadromous fish, as identified and agreed by the Licensing Authority.

In relation to EMF, the Licensee must monitor and provide a report on the EMF produced by the works to the Licensing Authority. The Licensee must agree the methodologies and timescales for monitoring with the Licensing Authority prior to the Commencement of the Licensed Activity as part of wider strategic monitoring on EMF. Any agreement must be adhered to unless otherwise agreed and approved by the Licensing Authority.

The requirement for monitoring pre-construction, during construction and post-construction in relation to the above receptors must be agreed by the Licensing Authority.

Due consideration must be given to the Scottish Marine Energy Research ("ScotMER") programme, or any successor programme formed to facilitate these research interests.

Any pre-consent monitoring or data collection carried out by the Licensee to address any of the above issues may be used in part to discharge this condition subject to the written approval of the Licensing Authority.

The PEMP is a live document which will be regularly reviewed by the Licensing Authority, at timescales to be determined by them to identify the appropriateness of on-going monitoring. Following such reviews, the Licensing Authority may require the Licensee to amend the PEMP and submit such an amended PEMP, in writing, to the Licensing Authority, for their written approval. Such approval may only be granted following consultation with NatureScot and any other environmental, or such other advisors as may be required at the discretion of the Licensing Authority.

The Licensee must submit written reports and associated raw and processed data of such monitoring or data collection to the Licensing Authority at timescales to be determined by them. Consideration must be given to data storage, analysis and reporting and be to Marine Environmental Data and Information Network standards.

Subject to any legal restrictions regarding the treatment of the information, the Licensing Authority, or any such other party appointed at the Licensing Authority' discretion, may make the results publicly available.

The Licensing Authority may agree, in writing, that monitoring may be reduced or ceased before the end of the lifespan of the Works.

3.2.20 The Licensee must no later than six months prior to the Commencement of the Licensed Activity, submit a FMMS, in writing, to the Licensing Authority for their written approval, in consultation with SFF. Commencement of the Licensed Activity cannot take place until such approval is granted.

In order to inform the production of the FMMS, the Licensee must monitor or collect data as relevant and agreed with the Licensing Authority.

As part of any finalised FMMS, the Licensee must produce and implement a mitigation strategy for each commercial fishery that can prove to the Licensing Authority that they would be adversely affected by the Works. The Licensee and any contractors or sub-contractors working for the Licensee must implement the mitigation measures committed to be carried out by the Licensee within the FMMS.

3.2.21 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit an updated Protocol for Archaeological Discoveries ("PAD") and Written Scheme of Investigation ("WSI") which sets out what the Licensee must do on discovering any marine archaeology during the construction, operation, maintenance and monitoring of the Works, in writing, to the Licensing Authority for their written approval. Commencement of the Licensed Activity cannot take place until such approval is granted. Such approval may be given only following consultation by the Licensing Authority with Historic Environment Scotland ("HES") and any such advisors as may be required at the discretion of the Licensing Authority. The Reporting Protocol must be implemented in full, at all times, by the Licensee.

The Licensee must send the approved PAD and WSI to the Highland Council for information only.

3.2.22 Not later than six months prior to the Commencement of the Licensed Activity, a Particles Management Plan ("PMP") shall be submitted to the Licensing Authority for their written approval in consultation with the Scottish Environment Protection Agency ("SEPA").

The PMP shall be consistent with the Application and supporting documents and shall include, but not be limited to, the following:

a) A programme of scheduled monitoring for radioactive particles;

b) The measures to be taken to reduce the likelihood of irradiated fuel particles in sediment being suspended or disturbed; and

c) A waste management plan for the construction phase of the Works.

There shall be no Commencement of the Licensed Activity unless and until the PMP is approved in writing by the Licensing Authority, in consultation with SEPA.

Any proposed amendment to the approved PMP shall be submitted, in writing, to the Licensing Authority for its written approval, in consultation with SEPA. The proposed amendment shall be submitted to the Licensing Authority no later than six months prior to the anticipated implementation of the proposed amendment (or such shorter period as may be agreed with the Licensing Authority in writing). No amendment to the PMP shall take effect unless and until approved in writing by the Licensing Authority in consultation with SEPA.

The PMP and any amended PMP shall thereafter be implemented in full.

3.2.23 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a Radio and Television Reception Mitigation Plan to the Licensing Authority for approval, in consultation with the Highland Council. The Radio and Television Reception Mitigation Plan shall provide for a baseline radio and television reception survey to be carried out prior to the installation of any turbine forming part of the Licensed Activity. The results of the baseline radio and television reception survey shall be submitted to the Highland Council prior to the installation of any turbine forming part of the Licensed Activity.

The approved Radio and Television Reception Mitigation Plan shall be implemented in full.

Any claim by any person regarding radio or television interference at their house, business premises or other building, made during the period from installation of any turbine forming part of the Works to the date falling twelve months after the Completion of the Licensed Activity shall be investigated by a qualified engineer and the results of the investigation shall be submitted to the Highland Council.

Should any impairment to the radio or television signal be attributable to the Works, the impairment shall be remedied so that the standard of reception at the affected property is equivalent to the baseline radio or television reception.

3.2.24 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a Development Specification and Layout Plan ("DSLP"), in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the MCA, NLB, NatureScot, MOD, CAA, SFF, the UKHO, the Highland Council, and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The DSLP must include, but not be limited to the following:

a) A plan showing the location of each individual WTG (subject to any required micro-siting), including information on WTG spacing, WTG identification/numbering, seabed conditions, bathymetry, confirmed foundation type for each WTG and any key constraints recorded on the site;

b) A list of latitude and longitude co-ordinates accurate to three decimal places of minutes of arc for each WTG. This must also be provided as a Geographic Information System ("GIS") shape file using WGS84 format;

c) The grid coordinates of the centre point of the proposed location for each WTG;

d) A table or diagram of each WTG dimensions including - height to blade tip (measured above Lowest Astronomical Tide ("LAT")) to the highest point, height to hub (measured above LAT to the centreline of the generator shaft), rotor diameter and maximum rotation speed;

e) The generating output of each WTG used on the site (Annex 1) and a confirmed generating output for the site overall;

f) The finishes for each WTG (see condition 3.2.18 on WTG lighting and marking); and

g) The length and proposed arrangements on the seabed of all inter-array cables.

3.2.25 The Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a DS, in writing, to the Licensing Authority. The DS, which must be signed off

by at least one qualified landscape architect, as instructed by the Licensee prior to submission to the Licensing Authority, must include representative wind farm visualisations from key viewpoints as agreed with the Licensing Authority, based upon the final DSLP as approved by the Licensing Authority as updated or amended. The Licensee must provide the DS, for information only, to the Highland Council, NatureScot, MCA and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

3.2.26 If piling is to be undertaken, the Licensee must, no later than six months prior to the Commencement of the Licensed Activity, submit a PS, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with NatureScot and any such other advisors as may be required at the discretion of the Licensing Authority. Commencement of the Licensed Activity cannot take place until such approval is granted.

The PS must include, but not be limited to:

a) Details of expected noise levels from pile-drilling/driving in order to inform point d) below;

b) Full details of the proposed method and anticipated duration of piling to be carried out at all locations;

c) Details of soft-start piling procedures and anticipated maximum piling energy required at each pile location; and

d) Details of any mitigation such as Passive Acoustic Monitoring ("PAM"), Marine Mammal Observers ("MMO"), use of Acoustic Deterrent Devices ("ADD") and monitoring to be employed during pile-driving, as agreed by the Licensing Authority.

The PS must be in accordance with the Application and must also reflect any relevant monitoring or data collection carried out after submission of the Application. The PS must demonstrate the means by which the exposure to and/or the effects of underwater noise have been mitigated in respect to cetaceans, harbour seal, grey seal and Atlantic salmon. The PS must, so far as is reasonably practicable, be consistent with the EMP, the PEMP, and the CMS.

3.2.27 Prior to the Commencement of the Licensed Activity, the Licensee must at its own expense, and with the approval of the Licensing Authority in consultation with NatureScot, appoint an independent Environmental Clerk of Works ("ECoW"). The ECoW must be appointed in time to review and approve the draft version of the first plan or programme submitted under this consent to the Licensing Authority, in sufficient time for any pre-construction monitoring requirements, and remain in post until a date agreed by the Licensing Authority. The terms of appointment must also be approved by the Licensing Authority in consultation with NatureScot.

The terms of the appointment must include, but not be limited to:

a) Quality assurance of final draft versions of all plans and programmes required under this marine licence;

b) Responsible for the monitoring and reporting of compliance with the marine licence conditions and the environmental mitigation measures for all wind farm infrastructure;

c) Provision of on-going advice and guidance to the Licensee in relation to achieving compliance with conditions, including but not limited to the conditions relating to and the implementation of the CMS, the EMP, the PEMP, the CaP and the VMP;

d) Provision of reports on point b & c above to the Licensing Authority at timescales to be determined by the Licensing Authority;

e) Induction and toolbox talks to onsite construction teams on environmental policy and procedures, including temporary stops and keeping a record of these;

f) Monitoring that the Works is being constructed in accordance with the plans and this consent, the Application and in compliance with all relevant regulations and legislation;

g) Reviewing and reporting incidents/near misses and reporting any changes in procedures as a result to the Licensing Authority; and

h) Agreement of a communication strategy with the Licensing Authority.

3.2.28 Prior to the Commencement of the Licensed Activity, a Fisheries Liaison Officer ("FLO"), must be appointed by the Licensee and approved, in writing, by the Licensing Authority, following consultation with SFF. The FLO must be appointed by the Licensee for the period from Commencement of the Licensed Activity until the Final Commissioning of the Works. The identity and credentials of the FLO must be included in the EMP (referred to in condition 3.2.14). The FLO must establish and maintain effective communications between the Licensee, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Works, and ensure compliance with best practice guidelines whilst doing so.

The responsibilities of the FLO must include:

a) Establishing and maintaining effective communications between the Licensee, any contractors or sub-contractors, fishermen and other users of the sea concerning the overall Works and any amendments to the EMP and site environmental procedures;

b) The provision of information relating to the safe operation of fishing activity on the site of the Works; and

c) Ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea.

3.2.29 The Licensee must complete and submit a proposed activity form in the online Noise Registry for all aspects of the Works that will produce loud, low to medium frequency (10 Hz-10 kHz) impulsive noise no later than seven days prior to Commencement of the Works. If any aspects of the Works differ from the proposed activity form in the online Noise Registry, the Licensee must complete and submit a new proposed activity form no later than seven days prior to Commencement of the Works.

3.3 During the Licensed Activity

3.3.1 Only those persons acting on behalf of, and authorised by, the agent or the Licensee shall undertake the Licensed Activity.

3.3.2 The Licensee must ensure that a copy of the licence is given to each contractor and sub-contractor employed to undertake the Licensed Activity.

3.3.3 The Licensee must notify the UKHO of the progress of the construction of the Works to facilitate the promulgation of maritime safety information and updating of admiralty charts and publications through the national Notice to Mariners system. The Licensee must ensure that progress of the Licensed Activity is promulgated regularly in the Kingfisher Fortnightly Bulletin.

3.3.4 The Licensee must ensure the best method of practice is used to minimise re-suspension of sediment during the Licensed Activity.

3.3.5 The Licensee must ensure appropriate steps are taken to minimise damage to the seabed by the Licensed Activity.

3.3.6 If the Licensee becomes aware that an accidental deposit has occurred, the Licensee must notify the Licensing Authority as soon as practicable. The Licensee must undertake such survey as directed by the Licensing Authority to locate the materials. If the Licensing Authority is of the view that any accidental deposits have occurred and should be removed, then the substances, objects and/or materials must be removed by the Licensee as soon as is practicable and at the Licensee's expense.

3.3.7 The Licensee must ensure that if oil based drilling muds are utilised they must be contained within a zero discharge system. Any drill cuttings associated with the use of water-based drilling muds need not be removed from the seabed.

3.3.8 Except as otherwise required by the NLB, the undertaker must paint all structures forming part of the authorised project yellow (colour code RAL 1023) from at least Highest Astronomical Tide ("HAT") to a height as directed by the NLB. Unless the Licensing Authority otherwise directs, the undertaker must paint the remainder of the structures grey (colour code RAL 7035).

3.3.9 Construction monitoring must include vessel traffic monitoring by automatic identification system for the duration of the construction period. An appropriate report must be submitted to the Licensing Authority, NLB and the MCA at the end of each year of the construction period.

3.3.10 Prior to the commissioning of the operational phase aids to navigation, including AIS AtoN, an 'Application for Statutory Sanction to Exhibit' must be submitted to NLB. This must be in accordance with the AtoN specified within the LMP. The Licensee must ensure that no AtoN, radio beacons or radar beacons operating in the marine frequency bands are installed or used on the Works without the prior consent of the appropriate body.

3.3.11 The rating level of noise immissions from the combined effects of the wind turbines forming part of the Development (including the Application of any tonal penalty) when determined in accordance with the Highland Council guidance notes for this condition shall not exceed a value of 34 dB LA90,10 minute at any dwelling which is lawfully existing or has planning permission at the date of this consent.

The Licensee shall continuously log power production, wind speed and wind direction. These data shall be retained for a period of not less than 24 months. The Licensee shall provide this information to the Licensing Authority within 14 days of receipt in writing of a request to do so.

Prior to the Date of First Commissioning, the Licensee shall have submitted to, and received written approval of the Licensing Authority, in consultation with the Highland Council, to an updated predictive noise assessment based on the final turbine model(s) to be installed, based on noise emission data from the turbine manufacturer.

Within 21 days from receipt of a written request from the Licensing Authority following a complaint sent to them from the Highland Council, informing of an occupant of a dwelling alleging noise disturbance at that dwelling, the Licensee shall, at its expense, employ a consultant to assess the level of noise immissions from the wind farm at the complainant's property. The written request from the Licensing Authority shall set out at least the date, time and location to which the complaint relates and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Licensing Authority, in consultation with the Highland Council, the noise giving rise to the complaint contains or is likely to contain a tonal component.

The assessment of the rating level of noise immissions in terms of paragraph (4) above shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Licensing Authority, in consultation with the Highland Council. The protocol shall include at least the proposed measurement location(s) where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Licensing Authority under paragraph (4) above.

The Licensee shall provide to the Licensing Authority the independent consultant's assessment of the rating level of noise immissions within two months of the date of the written request of the Licensing Authority for compliance measurements to be made under paragraph (4), unless the time limit is extended in writing by the Licensing Authority. Certificates of calibration of the instrumentation used to undertake the measurements shall be submitted to the Licensing Authority with the independent consultant's assessment of the rating level of noise immissions.

Where a further assessment of the rating level of noise immissions from the wind farm is required, the Licensee shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to paragraph (4) above unless the time limit has been extended in writing by the Licensing Authority.

3.4 Upon Completion of the Licensed Activity

3.4.1 The Licensee must send notification to the Source Data Receipt team, UKHO, (email: sdr@ukho.gov.uk) no later than 10 working days after the Completion of the Licensed Activity. The information provided must include: latitude and longitude coordinates in WGS84 (ETRS89) datum of the Works, as installed, on and/or above the seabed, any changes to engineering drawings, post dredge surveys, and details of new or changed aids to navigation where applicable. A copy of the notification must be sent to the Licensing Authority within five working days of the notification being sent.

The Licensee must ensure the seabed is returned to the original profile, or as close as reasonably practicable, following the Completion of the Licensed Activity. The Licensee must complete post-installation hydrographic surveys of the site of the Works or subsections thereof, and periodic hydrographic surveys thereafter, to the IHO Order 1a survey standard as per the MCA's MGN 654 and supplementary updates. The data and a corresponding report of the survey findings must be supplied to the UKHO on completion of these surveys, with notification to the MCA hydrography manager and the Licensing Authority.

The Licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case the National Maritime Coastguard Centre, are made fully aware of the Completion of the Licensed Activity.

The Licensee must ensure that the Completion of the Licensed Activity is promulgated in the soonest Kingfisher Fortnightly Bulletin following Completion of the Licensed Activity to inform the commercial fishing industry.

The Licensee must ensure that the WTGs are actively monitored throughout the lifetime of the Works. The Licensee must ensure that a contingency plan is in place to respond to any reported catastrophic failures which may result in the WTGs, or part(s) thereof, breaking loose and becoming a buoyant hazard. This contingency plan must include the transmission of local radio navigation warnings.

The Licensee must not exhibit, alter or discontinue navigational lighting of the Licensed Activity without the statutory sanction of the Commissioners of Northern Lighthouses.

3.4.2 The Licensee must take all reasonable, appropriate and practicable steps at the end of the operational life of the Licensed Activity to restore the site of the Works to its original pre-construction condition, or to as close to its original condition as is reasonably practicable, in accordance with the PEMP and the DP and to the satisfaction of the Licensing Authority.

Should the Licensed Activity be discontinued prior to expiry date of the licence, the Licensee must inform the Licensing Authority in writing of the discontinuation of the Licensed Activity. A separate marine licence will be required for the removal of the Licensed Activity.

3.4.3 The Licensee must notify the Licensing Authority, in writing, of the date of the Completion of the Licensed Activity, no more than one calendar month following the Completion of the Licensed Activity.

3.4.4 The Licensee must, within one month of the Completion of the Licensed Activity, provide the coordinates accurate to three decimal places of minutes of arc for the WTGs and position and maximum height of the WTGs to the Defence Geographic Centre, MOD, and any other such advisers or organisations as may be required for nautical charting and aviation purposes.

3.4.5 The Licensee must, no later than one calendar month following the Completion of the Licensed Activity submit a report, in writing, to the Licensing Authority stating the date of Completion of the Licensed Activity, the nature and quantity of all substances and/or objects placed below Mean High Water Springs and all materials used in construction under the authority of this licence.

3.4.6 The Licensee must, within three months after the Completion of the Licensed Activity, provide the following information to the MCA and the Licensing Authority:

a) A list of latitude and longitude co-ordinates accurate to three decimal places of minutes of arc for the WTGs. This must also be provided as a GIS shape file using WGS84 format; and

b) A table or diagram of the dimensions of the WTGs including - height to blade tip (measured above LAT) to the highest point, height to hub (measured above LAT to the centreline of the generator shaft), rotor diameter and maximum rotation speed.

3.4.7 The Licensee must provide the Licensing Authority with the MMO records no later than two months following Completion of the Licensed Activity.

3.4.8 The Licensee must submit a close out report to the Licensing Authority, MCA, UKHO and NatureScot within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following details:

a) The final number of installed WTGs;

b) As built plans;

c) Latitude and longitude coordinates of the centre point of the location for each WTG and offshore platform, substation, booster station and meteorological mast provided as Geographical Information System data referenced to WGS84 datum; and

d) Latitude and longitude coordinates of the inter array and export cable routes; provided as Geographical Information System data referenced to WGS84 datum.

3.4.9 The Licensee must notify the UKHO of the Completion of the Licensed Activity to facilitate the promulgation of maritime safety information and updating of admiralty charts and publications through the national Notice to Mariners system.

3.4.10 The Licensee must, within one month of the Completion of the Licensed Activity, provide the “as-built” positions and maximum heights of all WTG, along with any sub-sea infrastructure, to the UKHO for aviation and nautical charting purposes.

3.4.11 The Licensee must, as per the requirements of the MCA’s MGN 654 and supplementary updates, complete post-installation hydrographic surveys of the Site or subsections thereof, to the IHO Order 1a survey standard. On completion of these surveys, the data and a corresponding report of survey must be supplied to the UKHO, with notification to the MCA hydrography manager and the Licensing Authority.

3.4.12 The Licensee must ensure that local mariners, fishermen’s organisations and HM Coastguard, in this case the National Maritime Coastguard Centre are made fully aware of the Completion of the Licensed Activity.

3.4.13 The Licensee must ensure that the Completion of the Licensed Activity is promulgated in the Kingfisher Fortnightly Bulletin to inform the commercial fishing industry.

3.4.14 The Licensee must, where any damage, destruction or decay is caused to the Works, notify the Licensing Authority, in writing, of such damage, destruction or decay as soon as reasonably practicable following such damage, destruction or decay. The Licensee must carry out any remedial action which the Licensing Authority advises the Licensee, in writing, as requiring to be taken, which may include a requirement to display aids to navigation, following consultation by the Licensing Authority with the MCA, the NLB or any such advisers as required.

3.4.15 The Licensee must ensure that the WTG are actively monitored during the operation and maintenance phases. The Licensee must ensure that a contingency plan is in place to respond to any reported catastrophic failures which may result in the WTG, or part(s) thereof, breaking loose and becoming a buoyant hazard. This contingency plan must include the transmission of local radio navigation warnings.

3.4.16 The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the OfCom.

3.4.17 The Licensee must not exhibit, alter or discontinue navigational lighting of the Works without the statutory sanction of the Commissioners of Northern Lighthouses. An ‘Application for Statutory Sanction to Discontinue’ form must be submitted to NLB for the removal of the construction buoyage. Only upon successful inspection of the operational phase aids to navigation by NLB will the Sanction for the removal of the construction buoyage be granted.

3.4.18 The Licensee must complete and submit a close-out report for all aspects of the Works that produced loud, low to medium frequency (10 Hz-10 kHz) impulsive noise in the online Noise Registry no later than 12 weeks from the Completion of the Works.

NOTES

1. You are deemed to have satisfied yourself that there are no barriers, legal or otherwise, to the carrying out of the licensed activity. The issue of the licence does not absolve the Licensee from obtaining such authorisations, consents etc which may be required under any other legislation.
2. In the event that the Licensee wishes any of the particulars set down in the Schedule to be altered, the Licensing Authority must be immediately notified of the alterations. It should be noted that changes can invalidate a licence, and that an application for a new licence may be necessary.

Appendix 3 – Ornithology Modelling Update

Pentland Floating Offshore Wind Farm

Ornithology Assessment update

12 January 2026

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Document history

Author	James Robbins, Principal Ecological Modeller Graeme Cook, Principal Ornithologist Chris Pendlebury, Director of Offshore Consenting & Environment	12/01/2026
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Contents

1. Introduction

Highland Wind Limited (HWL) is submitting an additional variation to the Section 36 (s36) consent and the associated wind farm Marine Licence for the Pentland Floating Offshore Wind Farm (PFOWF 'the Project') granted in June 2023 and subsequently varied in April 2024 (Variation 01). This additional variation application (Variation 02) is required to refine the wind turbine generator (WTG) parameters for the Project to secure the flexibility required to respond to evolving market conditions and WTG design and supply chains. The drivers behind this include current and projected WTG availability, global supply chain dynamics, and to provide greater stability and reliability of floating foundations. These changes have also reduced uncertainty in the impact assessments by allowing more accurate modelling of the potential final project design scenarios.

This report has been prepared to present the methods and results from collision risk and displacement modelling for the Project for available design options and WTG models with refined rotor diameters, design parameters and reduced airgap scenarios.

The ornithology assessment for the Variation 01 application focussed on collision risk and displacement impacts upon kittiwake and displacement impacts upon puffin as features of the North Caithness Cliffs (NCC) SPA, due to concerns of potential adverse effect in combination with other plans and projects raised within the Appropriate Assessment (AA) at application stage. No changes are proposed to the WTG footprint area for Variation 02 and this remains the same as that assessed for Variation 01 and the current project consents. As such, Variation 02 impacts upon puffin (a receptor for which in combination impact concerns relate only to displacement impacts – which are calculated from the footprint area) remain unchanged between Variation 01 and Variation 02. Subsequent modelling activities outlined within this report therefore focus upon comparing the impacts of Variation 02 Design Scenarios upon the kittiwake feature of NCC SPA to those estimated in relation to the consented design (Variation 01).

Variation 02 focusses upon three WTG Design Scenarios:

- Design Scenario 1: Six 18 MW WTGs, with rotor diameter 260 m
- Design Scenario 2: Five 18 MW WTGs, with rotor diameter 260 m
- Design Scenario 3: Six 15 MW WTGs, with rotor diameter 236 m

These three Variation 02 Design Scenarios are considered in collision risk models run for kittiwake for WTGs of airgap options ranging from 27 m to 35 m. Collision Risk Modelling (CRM) is undertaken using the most recent guidance around input parameters and apportioned to NCC SPA as per the process followed for the Variation 01 application.

In addition to revisions to CRM, in response to noted conservatism within the Variation 01 AA and recent empirical evidence of non-avoidance by kittiwake of areas around small Offshore Wind Farms (OWFs) (Pollock *et al*., 2024), revised distributional response (displacement and barrier effects) modelling has been undertaken using the SeabORD tool. This revision used a smaller potential displacement area around the WTG footprint area (the 'Footprint border' parameter within the SeabORD tool), compared to modelling undertaken for the Variation 01 application (HiDef, 2023).

Predicted impacts from Variation 02 Design Scenarios for selected airgap options are then used to simulate population-level consequences on growth rate and population size to kittiwake associated with NCC SPA over the lifetime of the Project using Population Viability Analysis (PVA). These outputs are compared to population-level consequences of consented levels of impact associated with Variation 01. This comparison is used to evidence that the following preferred Variation 02 Design Scenarios and associated airgap options are not appreciably different, in relation to impacts to the kittiwake feature of NCC SPA, to that previously assessed and considered acceptable for Variation 01 within the consented project:

- Design Scenario 1: 30 m airgap option
- Design Scenario 2: 28 m airgap option
- Design Scenario 3: 28 m airgap option

2. Methods

The following sections present the approaches to modelling undertaken for the Variation 02 ornithology assessment including CRM, distributional response modelling and PVA. In each case methods are presented and any deviations to Variation 01 modelling are highlighted. As detailed above, kittiwake was the focal species for this analysis.

2.1. Collision risk modelling

2.1.1. General model parameters

Stochastic collision risk models (sCRM) were run using the stochLAB package (Caneco *et al.*, 2022) in R (R core team, 2024), following the NatureScot (2025) guidance. Band Option 2 collision risk models were each run for 1000 iterations. The sCRM tool (Caneco *et al.*, 2022) allows the inclusion of a "large array correction", which accounts for a decay in bird densities at later rows within the wind farm. The large array correction was not used for the Project, as it is generally used for large wind farm sites (>100 turbines). Not using this correction also provides a more precautionary approach as it does not reduce densities of birds for later rows of turbines, and instead risk is estimated per turbine and assessed across the windfarm additively. The value used for the proportion of upwind flights was 0.5, as per NatureScot (2025) guidance. For information, the random seed (which is an arbitrary number) for all runs was set to 52.

2.1.2. Turbine parameters

Variation 02 Design Scenarios were modelled using refined turbine parameters from available machines and informed by site-specific wind speed data characteristics. Refined parameters include reductions in blade width and rotor speed, as well as an updated calculation of operational time.

Variation 02 Design Scenario parameters are presented in Table 2.1. Standard deviations are not available for the Pitch and Rotation speed windfarm parameters currently and these are therefore parameterised as deterministic values only (i.e. with no variation).

Table 2.1: Turbine parameters used for CRM for each Variation 02 Design Scenario

Parameter	Design Scenario 1	Design Scenario 2	Design Scenario 3
Scenario description	6 x 18 MW turbines	5 x 18 MW turbines	6 x 15 MW turbines
Number of turbines	6	5	6
Latitude (degrees)	58.65*		
Number of blades	3		
Rotor radius (m)	130	130	118
Air gap (m)*	27 – 35	27 – 35	27 – 35
Tidal offset	0	0	0
Blade width (m)	6.93	6.93	5.1
Pitch (degrees)	10	10	3.96
Rotation speed (rpm)	6	6	6.61

*Source: Provided by developer. *Latitude was measured in QGIS.*

The operational times of the wind farm assumed for CRMs for all Variation 02 Design Scenarios are presented in Table 2.2, based on information provided by the developer. This has been refined using high fidelity information for the Array Site including, wind speed data from deployed FLiDAR and hindcast data sets, as well as detailed information related to WTG cut-in (wind speed at which rotors will start turning) and cut-out speeds (wind speed at which rotors will stop turning to preserve integrity in high wind speeds), to define monthly operating time.

This has allowed the operational time versus downtime percentages to be refined, reflective of the time that wind speeds will be either too low or too high to allow the turbines to rotate. This has been combined with detailed information on downtime associated with servicing and repair scenarios, based on asset management and maintenance regimes of existing WTGs, to provide an accurate description of operational time versus downtime compared to the Original Application and Variation 01.

The maintenance downtime calculated is incorporated into operational time, and therefore downtime was parameterised as 0% for each month. For each of the WTG design scenarios the cut-in and cut-out speeds are the same and differences between operational and maintenance activities are not discernible. Therefore, the same operational/downtime has been applied in each design scenario.

Table 2.2: Monthly operational time values used for CRMs for all Variation 02 Design Scenarios. Values are presented to 3 decimal places for display purposes only, and were parameterised at 9 decimal place precision as provided by the developer

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean op. time (%)	89.705	86.278	82.400	88.757	87.657	86.310	85.391	87.029	89.553	93.125	91.189	88.953
Down-time*	0	0	0	0	0	0	0	0	0	0	0	0

*Source: Provided by developer. *Note that downtime estimates are included in operational times, and therefore are parameterised as zero.*

2.1.3. Species Biometric Parameters

The species-specific biometric parameters used in all models are presented in Table 2.3. Species biometric parameters were used in line with joint statutory nature conservation body guidance released in 2024 (JNCC, Natural England, Natural Resources Wales, NatureScot, 2024). Notable updates from previous runs for Variation 01 include the application of a standard deviation around flight speed, and an increase in nocturnal activity from 25% to 40%, in addition to the inclusion of a standard deviation around nocturnal activity. Avoidance rates used previously for the project were 0.993 for stochastic models, whereas here 0.9929 is used in-line with recent joint statutory nature conservation body guidance (JNCC, Natural England, Natural Resources Wales, NatureScot, 2024).

Table 2.3: Bird biometric data used for CRM (numbers in brackets are standard deviations).

Species	Body length (m)	Wingspan (m)	Flight speed (m/s)	Nocturnal activity (%)	Avoidance rate	Flight type
Kittiwake	0.39 (± 0.005)	1.08 (± 0.0625)	13.1 (± 0.4)	40% (± 12%)	0.9929 (± 0.0003)	Flapping

In order to present seasonal summaries, seasonal definitions were adopted to match those advised by NatureScot in recent applications, with the breeding season spanning mid-April – August inclusive, autumn migration September – December inclusive, and spring migration January – mid-April inclusive. This follows the breeding season definition

according to NatureScot (NatureScot, 2020), with Biologically Defined Minimum Population Scales non-breeding seasons being adapted from Furness (2015).

2.1.4. In-flight densities

Density estimates of birds in flight within the Array Area were derived from baseline Digital Aerial Survey data collected on site. Densities used in CRM for Variation 02 Design Scenarios were as per those previously used in Variation 01; i.e. these have not changed. CRMS were parameterised with a mean and standard deviation of birds in flight per km^2 in each month. Values used are presented in Table 2.4.

Table 2.4: Summary of in-flight densities within the Project Array Area used for CRM parameterisation.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly mean (n/km^2)	0.11	0.31	0.57	0.10	0.30	5.17	3.15	0.50	0.11	0.40	2.01	0.00
Standard deviation (SD)	0.20	0.40	0.29	0.20	0.07	1.93	1.13	0.29	0.14	0.60	1.11	0.00

2.1.5. Apportioning to North Caithness Cliffs SPA

Collision impacts estimated for Variation 02 Design Scenarios were apportioned to the NCC SPA, as per the approach followed for Variation 01, using the proportions presented in Table 2.5. Impacts estimated for each CRM iteration were multiplied by the season-specific apportioning rate, the proportion of the population estimated to be adults and the proportion of adults estimated to breed in any given year (termed 'non' sabbatical birds), to result in estimates of impacts attributed to breeding adults from NCC SPA, for each season. These distributions were used to calculate summary statistics of median and 95% confidence intervals of collision estimates to breeding adults at NCC SPA.

Table 2.5: Values used to apportion impacts to North Caithness Cliffs SPA

Season	Apportioning rate for all birds[1]	Proportion of the population expected to be adults[2]	Rate of non-sabbatical birds[3]	Apportioning rate to breeding adults[4]
Spring migration	0.028	0.6	0.9	0.01512
Breeding	0.717	0.95	0.9	0.613035
Autumn migration	0.023	0.6	0.9	0.01242

Source: [1]Taken from Table 17 in PFOWF application Marine Ornithology Technical Appendix 12.2 (HiDef, 2022), calculated from Furness (2015) for all birds in the BDMPS.[2]Taken from Furness (2015). [3]Adopted in-line with recent consent applications. [4]Calculated by multiplying the all-bird apportioning rate, by the adult proportion, and proportion of non-sabbatical birds.

2.2. Distributional response modelling

SeabORD (version 1.3) revisions in relation to Variation 02 Design Scenarios were run with the same parameters used by HiDef in the Variation 01 application (HiDef, 2023), with inputs reported in Technical Appendix D1 (HiDef, 2023). There are two differences to this modelling.

1) A windfarm footprint border (an additional area from which birds may be displaced) was assumed to be 0 km, as opposed to 2 km which was adopted in the previous assessment. As SeabORD does not allow an absolute of zero, 0.0001 km was used, equating to 10 cm, the lowest value SeabORD appears to allow.
2) The random seed (used to ensure reproducibility when stochasticity is present in models, so that results will be the same if the same seed is used, alongside all other inputs) likely differs from Variation 01, as the seed used by HiDef is not reported in the variation documentation, nor the original Environmental Impact

Assessment (EIA) technical appendices. Here, a seed of 52 is adopted, and the model has been re-calibrated to ensure that the range of prey values modelled are appropriate representations of a 'moderate' year for the seed used (see Section 2.2.3).

While all other parameters remain the same as used in Variation 01 for the consented project, those used in the current modelling scenario are reported for completeness; however, justifications for choices are not repeated here, nor is detailed explanation of the workings of SeabORD.

2.2.1. Colony information

Colony information used in models is provided in Table 2.6.

Table 2.6: Modelled locations of colonies and the number of pairs of kittiwake present

Colony	Latitude	Longitude	Kittiwake pairs
Duncansby Head	58.6209	-3.0212	584
Dunnet Head	58.6598	-3.4164	2,020
Holburn Head	58.6314	-3.5421	55
Melvich	58.5747	-3.8597	2,777
Stroma	58.6839	-3.1467	137

Source: HiDef (2023)

2.2.2. Species parameters

The simulation was restricted to a 'region' or 'bounding box' which matched that used in the variation application, with north limits of 61.51797 latitude, east limit of 2.41520 longitude, west limit of -9.28890 longitude, and south limit of 55.73961 latitude.

Thirty percent of populations were assumed to be susceptible to displacement, and 100% of those are susceptible to barrier effects. All birds used 'perimeter' navigation techniques, rather than A* pathway finding to determine a route around the windfarm. Birds were distributed according to a distance decay curve, parameterised with a maximum foraging range of 300.6 km, and 97.5% of individuals are assumed within this range.

2.2.3. Calibration and resultant prey values

The SeabORD model is calibrated using prey values to determine levels that meet 'moderate' conditions, defined as between 5% and 15% adult mass loss, and at least 11% chick survival in the baseline scenario which does not include distributional effects of a windfarm (Mobbs *et al*., 2018). As the random seed (used for reproducibility where models include stochasticity) was not reported for Variation 01 SeabORD models (HiDef, 2023), models for Variation 02 Design Scenarios were re-calibrated for the current seed used. In this case, calibration was undertaken with seed 52. Calibration runs used 10% of the population, and prey values were varied to find the limits of a 'moderate' year under the definition outlined above. The range of prey values used in final runs are presented in Table 2.7, alongside the resultant baseline adult mass loss percentage for the limits of a 'moderate' year, and percentage of chicks surviving the season for the lower limit.

Table 2.7: Prey values used for final runs following calibration, and resultant chick survival

Colony	Lower prey quantity (g per unit volume)	Resultant adult mass loss from lower prey calibration (%)	Chick survival from lower prey calibration (%)	Upper prey quantity (g per unit volume)	Resultant adult mass loss from upper prey calibration (%)
Duncansby Head	225	10.46	12.07	294	5.06
Dunnet Head	236	9.63	11.39	304	5.06
Holburn Head	232	11.14	16.67	305	5.10
Melvich	257	9.74	11.51	327	5.04
Stroma	238	11.43	14.29	304	5.00

2.2.4. Offshore renewable development

A windfarm footprint border (representing additional area of displacement beyond the Array Area) of 0.0001 km was used, alongside a 5 km buffer (where displaced birds are distributed into). The original windfarm boundary polygon was used, with an area of 5.85 km^2.

2.2.5. Simulation settings

The random seed was set to 52, and all final simulations used 100% of the population. Ten matched paired simulations were completed for each colony.

2.3. Population Viability Analysis

Populations were modelled using PVA, following guidance presented in NatureScot (2023). Models were run using the Natural England PVA tool (NEPVA, Tool v 2 (Code: v 4.18 Interface v 1.7), Searle *et al*., 2019). The tool and underlying methodology are not explained in detail here, and this document focuses on inputs required to replicate the results presented, and the derivation of them.

2.3.1. Deviations from previous simulations

Where possible, the PVA methodology used for Variation 02 Design Scenarios mirrors that used in relation to Variation 01 (HiDef, 2023). Possible divergence exists in the following areas due to absence of information regarding some parameters selected for Variation 01. For Variation 01 PVA, the random seed used was not reported. Here, the seed was set to 1234 for all runs. As the PVA tool does not currently allow for true reproducibility of results unless the seed is set and multiple scenarios within a simulation are parameterised in the same order (Butler, *per comm*.[1]), each PVA simulation was conducted independently of the others (i.e. one Design Scenario and airgap option was modelled at a time). This ensures that outputs from impact scenarios are directly comparable with one another because the only difference among runs is the impact input parameters. It was also unclear what burn-in period was

[1] During PVA QA for Variation 02 very small differences were noted among PVA outputs despite the application of a set seed value and models incorporating the same impacts. Correspondence with NE PVA tool developers (Adam Butler) highlighted that this was a consequence of how the seed is applied by the tool to fix stochastic pathways and that for outputs to be replicated exactly for any given impact, where multiple impacts are modelled concurrently, the precise order of impacts modelled within the 'impacts' section of the tool must be replicated precisely. Consequently, to simplify validation of PVA models, it was decided to use the NE PVA tool with just one impact modelled in each run.

used for Variation 01 PVA, and this was set to 10 years for Variation 02. All other simulation and population settings remained consistent with those reported for Variation 01 (HiDef, 2023).

The years in which impacts are assumed to occur were changed from previous simulations, to be appropriate for the current project timeline. The first impact year was set to 2028, and the final to 2078. Output metrics used in this report focus on mean Counterfactual Growth Rates (CGR) and mean Counterfactual Population Size (CPS), calculated as the proportional differences between impact scenarios and baseline scenarios, on a scale of 0-1, for the 25th year of operation, as that is expected to be the project lifespan. A further 25 year impact period was modelled to align with NatureScot guidance to model up to 50 years (NatureScot, 2023).

2.3.2. Impact scenarios

Population level consequences to kittiwake from NCC SPA from predicted collision and distributional responses were modelled for each Variation 02 Design Scenario for the first three airgap options below, as revised CRM results indicated mortality estimates that were slightly greater than those predicted for Variation 01. Consequently, based on the CRM results outlined in Section 3, the three airgap options taken forward to PVA for each Design Scenario were:

1) Design Scenario 1 (Six 18 MW turbines): 30 – 32 m airgap options.
2) Design Scenario 2 (Five 18 MW turbines): 28 – 30 m airgap options.
3) Design Scenario 3 (Six 15 MW turbines): 28 – 30 m airgap options.

PVAs were not undertaken for Design Scenarios and higher airgap options where Variation 02 CRM outputs were estimated to the same or less than those consented in relation to Variation 01. This was on the basis that if levels of impact were predicted to be the same or less than those consented for Variation 01, the population level consequences of those impacts will be the same or less than those consented in relation to Variation 01.

For each of the above Variation 02 Design Scenario airgap options (nine in total) PVAs were undertaken using proportional impacts to productivity, adult survival, and immature survival of the NCC SPA population.

For each of the above Variation 02 Design Scenario airgap options, impacts were considered for four different Assessment Conditions:

1) Project-only impacts: using updated CRM estimates from Section 3.1 of this report, and retaining SeabORD impacts from HiDef (2023).
2) Project-only impacts: using updated CRM and SeabORD estimates, with results from Sections 3.1 and 3.2 of this report.
3) In-combination impacts: using updated CRM estimates from Section 3.1 of this report, combined with collated impacts from other windfarms reported in HiDef (2023).
4) In-combination impacts: using updated CRM and SeabORD estimates from Section 3.1 and 3.2 of this report, combined with collated impacts from other windfarms reported in HiDef (2023),

All proportional impact rates for project-only and in-combination Design Scenario airgap options for which PVAs were undertaken, and the impact numbers that they are derived from, are reported in Sections 3.3 and 3.4 of this report.

2.3.3. Separating impacts between age classes

Collision impacts for PVA were estimated for breeding adult birds alone using assumptions about the proportion of the population expected to be adults, and the rate of sabbatical birds (see Section 2.1.5). Collisions were also estimated for the immature population based on the proportional impacts from adults and immatures in the variation application (HiDef, 2023), resulting in a correction factor of 0.06696 (i.e. 6.7% of collisions assumed to be immatures). Immature collision impacts were derived by multiplying this factor by the estimated adult collisions.

Distributional response impacts in the breeding season for PVA, estimated with SeabORD, are already separated into breeding adults and chicks, therefore, no further separation is required. For distributional responses, it is assumed that there was no impact from distributional responses on immatures, as this was not estimated by SeabORD. In the original application and the Variation 01 application, there were zero mortalities predicted with displacement matrices in the autumn migration, non-breeding season, and spring migration periods, and therefore age class assignment was not required.

2.3.4. Deriving in-combination impacts for population modelling

In-combination impacts were derived from the in-combination impact estimate for scenario 4d presented in Variation 01 (HiDef, 2023). This included PFOWF in addition to sites in the Moray Firth and selected other North Sea projects, but not Berwick Bank OWF), and was used on the basis that NatureScot and the Scottish Ministers considered this scenario most appropriate for in-combination assessment. From the in-combination impact estimate for scenario 4d presented in Variation 01, the project-only impacts estimated for Variation 01 were subtracted. The resulting impacts, representing only those from other projects, were then combined with the project-only impacts estimated in relation to Variation 02 Design Scenarios and presented in Section 3.1 and 3.2 of this report.

The in-combination impact estimates from other projects, and not including those from the Project, are therefore 24.41 adult mortalities (20.41 from collision, 4.00 from distributional responses), 13.13 immature mortalities (from collision), and 12.60 juvenile/chick mortalities (from distributional responses).

Where wind farm projects with potential connectivity to the kittiwake population of NCC SPA have submitted consent applications since the submission of the Variation 01 application, those impacts have not been incorporated within the in-combination impact assessments undertaken in relation to Variation 02 Design Scenarios.

Those projects have, in accordance with appropriate HRA process, considered the Variation 01 (current consented design) or original consented designs (the latter, although superseded, is more conservative than the former) within their in-combination assessments. Consequently, on the basis that Project only impacts associated with Variation 02 Design Scenarios are not appreciably different than those consented in relation to Variation 01 [as demonstrated within Section 3], impacts resultant from design refinements for Variation 02 will not appreciably alter the conclusions of assessments submitted after Variation 01. Those projects that have submitted consent applications since the submission of Variation 01 (up to a period of two months prior to the submission date of this Variation 02 application, as confirmed by MD-LOT in their letter of 21 October 2025) are:

- Outer Dowsing Offshore Wind Farm
- Salamander Offshore Wind Farm (consented 21 August 2025)
- Ossian Offshore Wind Farm
- Caledonia Offshore Wind Farm
- Muir Mhòr Offshore Wind Farm
- Cenos Floating Offshore Windfarm
- West of Orkney Wind Farm (consented 27 June 2025)
- Buchan Offshore Wind Farm
- Aspen Offshore Wind Farm
- Ayre Offshore Wind Farm

Additionally, Berwick Bank OWF, for which application documents were submitted prior to Variation 01, has also recently received consent (31 July 2025). This consent is conditional upon the agreement of a derogation case which will include measures to compensate identified impacts resultant in AESI to the kittiwake feature of NCC SPA. Therefore, in accordance with recent NS recommendations, where compensated impacts are not included within in-combination assessment impact totals, it is assumed that Berwick Bank will not contribute to in-combination impacts for assessments relating to the kittiwake feature of NCC SPA. As such, consideration of Scenario 4d (i.e. without inclusion of Berwick Bank OWF) remains the most appropriate option for in-combination assessment.

It is also noted that the progression of Hornsea 4 OWF which was previously included as a component of in-combination Scenario 4d for Variation 01, has recently ceased (May 2025), and this project will not progress in its present form. Hornsea 4 OWF was estimated to contribute a total of 0.84 breeding adult kittiwake mortalities to the NCC SPA population per annum. Impacts associated with Hornsea 4 OWF remain within Scenario 4d in relation to in-combination assessment for Variation 02, introducing an additional degree of conservatism to the outcomes of those assessments.

Since the submission of Variation 01, it is also noted that the Dogger Bank South Offshore Wind Farms, DBS East and DBS West, have, submitted a development consent order application to the Secretary of State which details the apportioning of a total of 1.8 breeding adult kittiwakes to NCC SPA. This application does not however include an in-combination assessment for impacts to kittiwake at NCC SPA (as it follows the assessment approach preferred by Natural England, given they are the primary SNCB for that project). Should these projects subsequently submit additional information in this regard, it is assumed that the Project would be considered within their in-combination assessment for impacts to kittiwake at NCC SPA.

It is also noted that Culzean Floating Offshore Wind Farm has submitted a Marine Licence variation to its consented design since the submission of Variation 01. Although this project has potential connectivity to the kittiwake population of NCC SPA, the project comprises a single turbine and, therefore, total impacts to kittiwake are extremely small (<0.1 individuals per annum), and considerations of in-combination effects have not been required for this project.

Furthermore, a number of wind farm projects with potential connectivity to the kittiwake population of NCC SPA have submitted scoping documents since the submission of Variation 01. Should those projects submit consent applications, they should, in accordance with appropriate HRA process, consider the Project within their in-combination assessments. Consequently, the insubstantial changes to Variation 01 project only impacts resultant from Variation 02 design refinements will not appreciably alter the conclusions of future assessments.

Finally, where consent applications submitted after the submission of Variation 01 attribute non-negligible impacts to the kittiwake population of NCC SPA, it is assumed that those projects would be required to compensate for those impacts. Consequently, in accordance with recent NatureScot recommendations where compensated impacts are not included within in-combination assessment impact totals, it is assumed that for consent applications submitted after the submission of Variation 01, which attribute non-negligible impacts to the kittiwake population of NCC SPA, those projects would not contribute to in-combination assessments relating to the kittiwake receptor of NCC SPA.

3. Results

3.1. Collision risk modelling

3.1.1. Overall estimate of impact

Seasonal collision estimates for each Variation 02 Design Scenario, with nine air gap options (27 m – 35 m), along with the annual estimates, are presented in Table 3.1. Monthly collision estimates are presented in Table 3.2. Collision impacts apportioned to NCC SPA are presented in Section 3.2.

Table 3.1. Stochastic, seasonal and annual collision estimates for kittiwake at the Project's Array Area. Values are rounded to 2 decimal places for display purposes only. Values are the median estimates from 1000 iterations with 95% confidence intervals (CI) in brackets.

Design Scenario	Airgap Option	Spring migration	Breeding	Autumn migration	Annual
Design Scenario 1 (Six 18 MW WTGs, rotor diameter 260 m)	27m	0.69 (0.29 - 1.3)	6.16 (3.29 - 10.23)	1.45 (0.43 - 3.12)	8.4 (4.92 - 13.04)
	28m	0.63 (0.26 - 1.19)	5.6 (2.98 - 9.33)	1.32 (0.39 - 2.84)	7.63 (4.48 - 11.88)
	29m	0.57 (0.24 - 1.08)	5.08 (2.7 - 8.51)	1.19 (0.36 - 2.59)	6.95 (4.03 - 10.82)
	30m	0.52 (0.22 - 0.98)	4.63 (2.45 - 7.73)	1.09 (0.33 - 2.35)	6.32 (3.65 - 9.93)
	31m	0.47 (0.2 - 0.89)	4.21 (2.23 - 7.07)	0.99 (0.29 - 2.14)	5.74 (3.29 - 9.07)
	32m	0.43 (0.18 - 0.82)	3.82 (2.03 - 6.44)	0.9 (0.26 - 1.95)	5.21 (2.98 - 8.26)
	33m	0.39 (0.16 - 0.75)	3.47 (1.84 - 5.87)	0.81 (0.24 - 1.77)	4.74 (2.69 - 7.52)
	34m	0.36 (0.14 - 0.68)	3.15 (1.68 - 5.35)	0.74 (0.21 - 1.62)	4.3 (2.43 - 6.93)
	35m	0.32 (0.13 - 0.62)	2.87 (1.52 - 4.87)	0.67 (0.19 - 1.48)	3.9 (2.2 - 6.37)
Design Scenario 2 (Five 18 MW WTGs, rotor diameter 260 m)	27m	0.58 (0.24 - 1.08)	5.13 (2.74 - 8.53)	1.21 (0.36 - 2.6)	7 (4.1 - 10.87)
	28m	0.53 (0.22 - 0.99)	4.67 (2.48 - 7.78)	1.1 (0.33 - 2.37)	6.36 (3.74 - 9.9)
	29m	0.48 (0.2 - 0.9)	4.23 (2.25 - 7.09)	1 (0.3 - 2.15)	5.79 (3.36 - 9.02)
	30m	0.43 (0.18 - 0.82)	3.86 (2.04 - 6.45)	0.9 (0.27 - 1.96)	5.27 (3.05 - 8.28)
	31m	0.4 (0.16 - 0.75)	3.51 (1.86 - 5.89)	0.82 (0.25 - 1.78)	4.79 (2.74 - 7.56)
	32m	0.36 (0.15 - 0.68)	3.18 (1.69 - 5.37)	0.75 (0.22 - 1.62)	4.34 (2.48 - 6.88)
	33m	0.33 (0.13 - 0.63)	2.9 (1.54 - 4.89)	0.68 (0.2 - 1.48)	3.95 (2.24 - 6.27)
	34m	0.3 (0.12 - 0.57)	2.63 (1.4 - 4.46)	0.61 (0.18 - 1.35)	3.58 (2.03 - 5.78)
	35m	0.27 (0.11 - 0.52)	2.39 (1.27 - 4.06)	0.56 (0.16 - 1.23)	3.25 (1.84 - 5.31)
Design Scenario 3 (Six 15 MW WTGs, rotor diameter 236 m)	27m	0.56 (0.23 - 1.05)	4.94 (2.64 - 8.21)	1.16 (0.35 - 2.51)	6.75 (3.95 - 10.48)
	28m	0.51 (0.21 - 0.95)	4.49 (2.39 - 7.49)	1.06 (0.32 - 2.28)	6.13 (3.59 - 9.55)
	29m	0.46 (0.19 - 0.86)	4.08 (2.17 - 6.83)	0.96 (0.29 - 2.08)	5.58 (3.23 - 8.7)
	30m	0.42 (0.17 - 0.78)	3.72 (1.97 - 6.22)	0.87 (0.26 - 1.89)	5.08 (2.94 - 7.98)
	31m	0.38 (0.16 - 0.72)	3.38 (1.79 - 5.67)	0.79 (0.24 - 1.72)	4.61 (2.65 - 7.28)
	32m	0.35 (0.14 - 0.66)	3.07 (1.63 - 5.17)	0.72 (0.21 - 1.56)	4.18 (2.4 - 6.63)
	33m	0.31 (0.13 - 0.6)	2.79 (1.48 - 4.72)	0.65 (0.19 - 1.43)	3.81 (2.16 - 6.04)
	34m	0.29 (0.11 - 0.55)	2.54 (1.34 - 4.31)	0.59 (0.17 - 1.3)	3.45 (1.94 - 5.57)
	35m	0.26 (0.1 - 0.5)	2.3 (1.22 - 3.92)	0.54 (0.15 - 1.19)	3.13 (1.77 - 5.12)

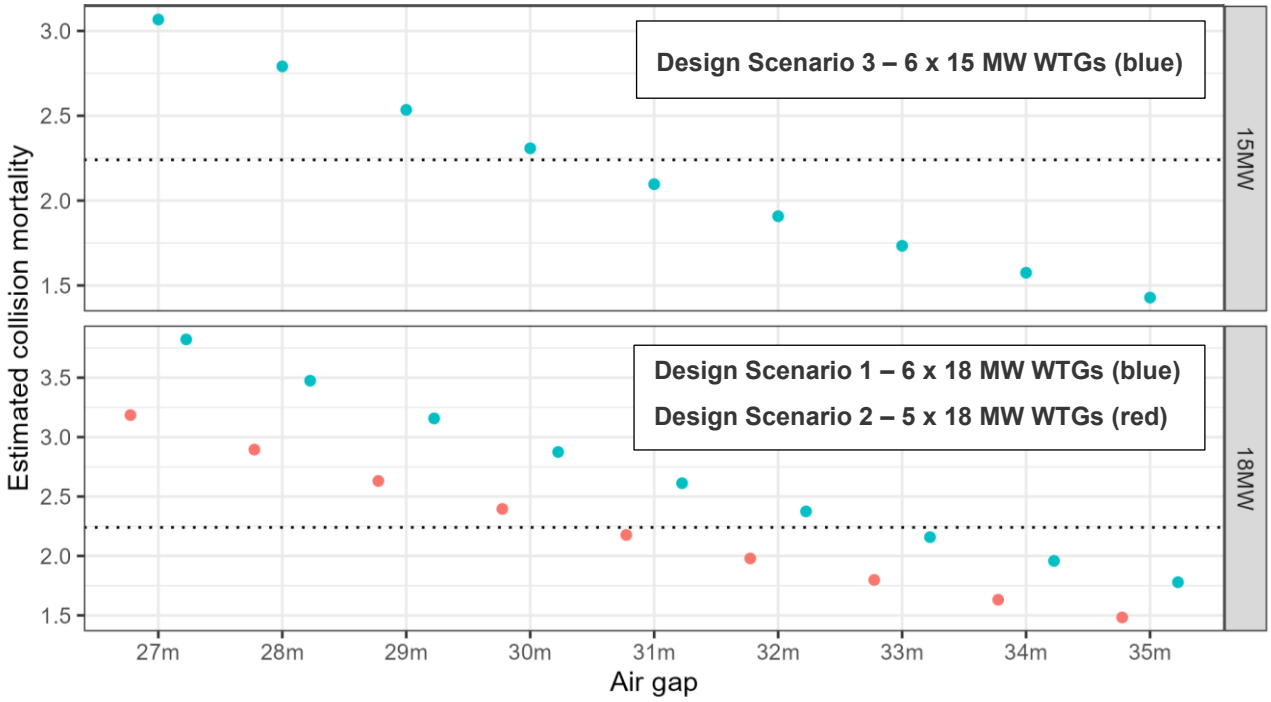
Table 3.2: Monthly collision risk estimates for kittiwake. Values are medians calculated from 1000 iterations, with 95% CIs in brackets.

Design Scenario	Airgap Option	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Design Scenario 1 (Six 18 MW WTGs, rotor diameter 260 m)	27m	0.09 (0 - 0.28)	0.2 (0.01 - 0.57)	0.32 (0.06 - 0.69)	0.12 (0.01 - 0.35)	0.21 (0.11 - 0.33)	3.41 (1.04 - 6.64)	2.14 (0.65 - 3.92)	0.32 (0.04 - 0.74)	0.09 (0 - 0.26)	0.34 (0.02 - 1)	0.99 (0.11 - 2.36)	0 (0-0)
	28m	0.08 (0 - 0.26)	0.18 (0.01 - 0.52)	0.29 (0.06 - 0.62)	0.11 (0.01 - 0.31)	0.19 (0.1 - 0.31)	3.09 (0.94 - 6.06)	1.94 (0.59 - 3.58)	0.29 (0.04 - 0.67)	0.08 (0 - 0.23)	0.3 (0.01 - 0.91)	0.9 (0.1 - 2.15)	0 (0-0)
	29m	0.07 (0 - 0.23)	0.17 (0.01 - 0.47)	0.26 (0.05 - 0.57)	0.1 (0 - 0.29)	0.17 (0.09 - 0.28)	2.81 (0.85 - 5.53)	1.76 (0.53 - 3.26)	0.26 (0.04 - 0.61)	0.07 (0 - 0.21)	0.28 (0.01 - 0.83)	0.82 (0.09 - 1.96)	0 (0-0)
	30m	0.06 (0 - 0.21)	0.15 (0.01 - 0.43)	0.24 (0.05 - 0.52)	0.09 (0 - 0.26)	0.15 (0.08 - 0.26)	2.56 (0.77 - 5.05)	1.6 (0.48 - 2.97)	0.24 (0.03 - 0.56)	0.07 (0 - 0.2)	0.25 (0.01 - 0.75)	0.74 (0.09 - 1.79)	0 (0-0)
	31m	0.06 (0 - 0.19)	0.14 (0.01 - 0.39)	0.22 (0.04 - 0.47)	0.08 (0 - 0.24)	0.14 (0.07 - 0.23)	2.33 (0.7 - 4.61)	1.44 (0.44 - 2.7)	0.22 (0.03 - 0.51)	0.06 (0 - 0.18)	0.23 (0.01 - 0.68)	0.67 (0.08 - 1.64)	0 (0-0)
	32m	0.05 (0 - 0.18)	0.12 (0.01 - 0.35)	0.2 (0.04 - 0.43)	0.07 (0 - 0.21)	0.13 (0.06 - 0.21)	2.12 (0.64 - 4.2)	1.31 (0.39 - 2.47)	0.2 (0.03 - 0.46)	0.05 (0 - 0.16)	0.21 (0.01 - 0.62)	0.61 (0.07 - 1.49)	0 (0-0)
	33m	0.05 (0 - 0.16)	0.11 (0.01 - 0.32)	0.18 (0.04 - 0.39)	0.06 (0 - 0.2)	0.12 (0.06 - 0.2)	1.92 (0.58 - 3.82)	1.19 (0.36 - 2.24)	0.18 (0.02 - 0.42)	0.05 (0 - 0.15)	0.19 (0.01 - 0.56)	0.55 (0.06 - 1.36)	0 (0-0)
	34m	0.04 (0 - 0.15)	0.1 (0.01 - 0.29)	0.16 (0.03 - 0.36)	0.06 (0 - 0.18)	0.11 (0.05 - 0.18)	1.75 (0.52 - 3.49)	1.08 (0.32 - 2.04)	0.16 (0.02 - 0.38)	0.05 (0 - 0.13)	0.17 (0.01 - 0.52)	0.5 (0.06 - 1.24)	0 (0-0)
	35m	0.04 (0 - 0.13)	0.09 (0.01 - 0.27)	0.15 (0.03 - 0.32)	0.05 (0 - 0.16)	0.1 (0.05 - 0.16)	1.58 (0.47 - 3.18)	0.98 (0.29 - 1.86)	0.15 (0.02 - 0.35)	0.04 (0 - 0.12)	0.15 (0.01 - 0.47)	0.45 (0.05 - 1.13)	0 (0-0)
Design Scenario 2 (Five 18 MW WTGs, rotor diameter 260 m)	27m	0.07 (0 - 0.23)	0.17 (0.01 - 0.48)	0.27 (0.05 - 0.57)	0.1 (0 - 0.29)	0.17 (0.09 - 0.28)	2.84 (0.87 - 5.54)	1.78 (0.54 - 3.26)	0.27 (0.04 - 0.61)	0.07 (0 - 0.21)	0.28 (0.01 - 0.83)	0.83 (0.1 - 1.97)	0 (0-0)
	28m	0.07 (0 - 0.21)	0.15 (0.01 - 0.43)	0.24 (0.05 - 0.52)	0.09 (0 - 0.26)	0.16 (0.08 - 0.25)	2.58 (0.78 - 5.05)	1.62 (0.49 - 2.98)	0.24 (0.03 - 0.56)	0.07 (0 - 0.2)	0.25 (0.01 - 0.76)	0.75 (0.09 - 1.79)	0 (0-0)
	29m	0.06 (0 - 0.19)	0.14 (0.01 - 0.39)	0.22 (0.04 - 0.47)	0.08 (0 - 0.24)	0.14 (0.07 - 0.23)	2.34 (0.71 - 4.61)	1.47 (0.45 - 2.72)	0.22 (0.03 - 0.51)	0.06 (0 - 0.18)	0.23 (0.01 - 0.69)	0.68 (0.08 - 1.64)	0 (0-0)
	30m	0.05 (0 - 0.18)	0.13 (0.01 - 0.36)	0.2 (0.04 - 0.43)	0.07 (0 - 0.22)	0.13 (0.07 - 0.21)	2.13 (0.64 - 4.21)	1.33 (0.4 - 2.47)	0.2 (0.03 - 0.46)	0.05 (0 - 0.16)	0.21 (0.01 - 0.63)	0.62 (0.07 - 1.49)	0 (0-0)
	31m	0.05 (0 - 0.16)	0.11 (0.01 - 0.32)	0.18 (0.04 - 0.39)	0.07 (0 - 0.2)	0.12 (0.06 - 0.2)	1.94 (0.59 - 3.84)	1.2 (0.36 - 2.25)	0.18 (0.02 - 0.42)	0.05 (0 - 0.15)	0.19 (0.01 - 0.57)	0.56 (0.06 - 1.37)	0 (0-0)
	32m	0.04 (0 - 0.15)	0.1 (0.01 - 0.29)	0.17 (0.03 - 0.36)	0.06 (0 - 0.18)	0.11 (0.05 - 0.18)	1.77 (0.53 - 3.5)	1.09 (0.33 - 2.06)	0.17 (0.02 - 0.39)	0.05 (0 - 0.13)	0.17 (0.01 - 0.51)	0.51 (0.06 - 1.25)	0 (0-0)
	33m	0.04 (0 - 0.13)	0.09 (0.01 - 0.27)	0.15 (0.03 - 0.33)	0.05 (0 - 0.16)	0.1 (0.05 - 0.16)	1.6 (0.48 - 3.18)	0.99 (0.3 - 1.87)	0.15 (0.02 - 0.35)	0.04 (0 - 0.12)	0.16 (0.01 - 0.47)	0.46 (0.05 - 1.13)	0 (0-0)
	34m	0.04 (0 - 0.12)	0.09 (0.01 - 0.24)	0.14 (0.03 - 0.3)	0.05 (0 - 0.15)	0.09 (0.04 - 0.15)	1.46 (0.43 - 2.9)	0.9 (0.27 - 1.7)	0.14 (0.02 - 0.32)	0.04 (0 - 0.11)	0.14 (0.01 - 0.43)	0.42 (0.05 - 1.03)	0 (0-0)
	35m	0.03 (0 - 0.11)	0.08 (0.01 - 0.22)	0.12 (0.02 - 0.27)	0.04 (0 - 0.14)	0.08 (0.04 - 0.14)	1.32 (0.39 - 2.65)	0.82 (0.24 - 1.55)	0.12 (0.02 - 0.29)	0.03 (0 - 0.1)	0.13 (0.01 - 0.39)	0.38 (0.04 - 0.95)	0 (0-0)
Design Scenario 3 (Six 15 MW WTGs, rotor diameter 236 m)	27m	0.07 (0 - 0.22)	0.16 (0.01 - 0.46)	0.26 (0.05 - 0.55)	0.09 (0 - 0.28)	0.17 (0.09 - 0.27)	2.73 (0.83 - 5.35)	1.71 (0.52 - 3.15)	0.26 (0.03 - 0.59)	0.07 (0 - 0.21)	0.27 (0.01 - 0.8)	0.8 (0.09 - 1.89)	0 (0-0)
	28m	0.06 (0 - 0.21)	0.15 (0.01 - 0.42)	0.23 (0.05 - 0.5)	0.08 (0 - 0.25)	0.15 (0.08 - 0.25)	2.48 (0.75 - 4.86)	1.56 (0.47 - 2.88)	0.23 (0.03 - 0.54)	0.06 (0 - 0.19)	0.24 (0.01 - 0.73)	0.72 (0.08 - 1.73)	0 (0-0)
	29m	0.06 (0 - 0.19)	0.13 (0.01 - 0.38)	0.21 (0.04 - 0.46)	0.08 (0 - 0.23)	0.14 (0.07 - 0.22)	2.25 (0.68 - 4.44)	1.41 (0.43 - 2.62)	0.21 (0.03 - 0.49)	0.06 (0 - 0.17)	0.22 (0.01 - 0.67)	0.66 (0.08 - 1.58)	0 (0-0)
	30m	0.05 (0 - 0.17)	0.12 (0.01 - 0.34)	0.19 (0.04 - 0.41)	0.07 (0 - 0.21)	0.12 (0.06 - 0.21)	2.05 (0.62 - 4.05)	1.28 (0.39 - 2.39)	0.19 (0.03 - 0.45)	0.05 (0 - 0.16)	0.2 (0.01 - 0.6)	0.6 (0.07 - 1.44)	0 (0-0)
	31m	0.05 (0 - 0.16)	0.11 (0.01 - 0.31)	0.17 (0.03 - 0.38)	0.06 (0 - 0.19)	0.11 (0.06 - 0.19)	1.87 (0.56 - 3.7)	1.16 (0.35 - 2.17)	0.18 (0.02 - 0.41)	0.05 (0 - 0.14)	0.18 (0.01 - 0.55)	0.54 (0.06 - 1.32)	0 (0-0)
	32m	0.04 (0 - 0.14)	0.1 (0.01 - 0.28)	0.16 (0.03 - 0.34)	0.06 (0 - 0.17)	0.1 (0.05 - 0.17)	1.7 (0.51 - 3.37)	1.05 (0.32 - 1.98)	0.16 (0.02 - 0.37)	0.04 (0 - 0.13)	0.17 (0.01 - 0.5)	0.49 (0.06 - 1.2)	0 (0-0)
	33m	0.04 (0 - 0.13)	0.09 (0.01 - 0.26)	0.15 (0.03 - 0.31)	0.05 (0 - 0.16)	0.09 (0.05 - 0.16)	1.55 (0.46 - 3.07)	0.96 (0.28 - 1.8)	0.14 (0.02 - 0.34)	0.04 (0 - 0.12)	0.15 (0.01 - 0.45)	0.44 (0.05 - 1.09)	0 (0-0)
	34m	0.04 (0 - 0.12)	0.08 (0.01 - 0.24)	0.13 (0.03 - 0.29)	0.05 (0 - 0.14)	0.08 (0.04 - 0.14)	1.4 (0.42 - 2.8)	0.87 (0.26 - 1.64)	0.13 (0.02 - 0.31)	0.04 (0 - 0.11)	0.14 (0.01 - 0.41)	0.4 (0.05 - 1)	0 (0-0)
	35m	0.03 (0 - 0.11)	0.07 (0.01 - 0.21)	0.12 (0.02 - 0.26)	0.04 (0 - 0.13)	0.08 (0.04 - 0.13)	1.27 (0.37 - 2.55)	0.79 (0.23 - 1.49)	0.12 (0.02 - 0.28)	0.03 (0 - 0.1)	0.12 (0.01 - 0.37)	0.36 (0.04 - 0.91)	0 (0-0)

3.1.2. Apportioned to North Caithness Cliffs SPA

Figure 3.1 shows median annual collision impacts apportioned to NCC SPA for each modelled Design Scenario and airgap option, relative to the consented estimate of 2.24 annual collisions presented in the Variation 01 application. Seasonal and annual summaries are presented in Table 3.3.

The results demonstrate that for Variation 02 Design Scenario 1, estimated collision impacts are below those associated with the Variation 01 consented design when airgaps exceed 33 m, while for Design Scenarios 2 and 3, estimated collision impacts are below those associated with the Variation 01 consented design when airgaps exceed 31 m.



Points show median estimates.
Dotted horizontal line indicates consented 2.24 annual collisions (Table 7, Variation appropriate assessment.)

Figure 3.1: Annual collision risk estimates for kittiwake from the Project, apportioned to NCC SPA, summarised with medians for each Design Scenario.

Table 3.3: **Stochastic, seasonal and annual collision estimates for kittiwake at the Project's Array Area, apportioned to NCC SPA. Values are rounded to 2 decimal places for display purposes only. Values are the median estimates from 1000 iterations with 95% confidence intervals (CI) in brackets.**

Design Scenario	Airgap Option	Spring migration	Breeding	Autumn migration	Annual
Design Scenario 1 (Six 18 MW WTGs, rotor diameter 260 m)	27m	0.01 (0 - 0.02)	3.77 (2.02 - 6.27)	0.03 (0.01 - 0.07)	3.82 (2.05 - 6.34)
	28m	0.01 (0 - 0.02)	3.43 (1.83 - 5.72)	0.03 (0.01 - 0.07)	3.47 (1.86 - 5.78)
	29m	0.01 (0 - 0.02)	3.11 (1.65 - 5.21)	0.03 (0.01 - 0.06)	3.16 (1.69 - 5.27)
	30m	0.01 (0 - 0.01)	2.84 (1.5 - 4.74)	0.02 (0.01 - 0.05)	2.87 (1.53 - 4.8)
	31m	0.01 (0 - 0.01)	2.58 (1.37 - 4.33)	0.02 (0.01 - 0.05)	2.61 (1.39 - 4.37)
	32m	0.01 (0 - 0.01)	2.34 (1.24 - 3.95)	0.02 (0.01 - 0.04)	2.37 (1.27 - 3.98)
	33m	0.01 (0 - 0.01)	2.13 (1.13 - 3.6)	0.02 (0.01 - 0.04)	2.16 (1.15 - 3.64)
	34m	0.01 (0 - 0.01)	1.93 (1.03 - 3.28)	0.02 (0 - 0.04)	1.96 (1.05 - 3.31)
	35m	0 (0 - 0.01)	1.76 (0.93 - 2.99)	0.02 (0 - 0.03)	1.78 (0.95 - 3.02)
Design Scenario 2 (Five 18 MW WTGs, rotor diameter 260 m)	27m	0.01 (0 - 0.02)	3.15 (1.68 - 5.23)	0.03 (0.01 - 0.06)	3.19 (1.71 - 5.28)
	28m	0.01 (0 - 0.01)	2.86 (1.52 - 4.77)	0.03 (0.01 - 0.05)	2.9 (1.55 - 4.82)
	29m	0.01 (0 - 0.01)	2.59 (1.38 - 4.35)	0.02 (0.01 - 0.05)	2.63 (1.41 - 4.39)
	30m	0.01 (0 - 0.01)	2.37 (1.25 - 3.95)	0.02 (0.01 - 0.05)	2.4 (1.28 - 4)
	31m	0.01 (0 - 0.01)	2.15 (1.14 - 3.61)	0.02 (0.01 - 0.04)	2.18 (1.16 - 3.64)
	32m	0.01 (0 - 0.01)	1.95 (1.04 - 3.29)	0.02 (0.01 - 0.04)	1.98 (1.06 - 3.32)
	33m	0 (0 - 0.01)	1.78 (0.94 - 3)	0.02 (0 - 0.03)	1.8 (0.96 - 3.03)
	34m	0 (0 - 0.01)	1.61 (0.86 - 2.73)	0.01 (0 - 0.03)	1.63 (0.87 - 2.76)
	35m	0 (0 - 0.01)	1.46 (0.78 - 2.49)	0.01 (0 - 0.03)	1.48 (0.79 - 2.51)
Design Scenario 3 (Six 15 MW WTGs, rotor diameter 236 m)	27m	0.01 (0 - 0.02)	3.03 (1.62 - 5.04)	0.03 (0.01 - 0.06)	3.07 (1.64 - 5.09)
	28m	0.01 (0 - 0.01)	2.76 (1.46 - 4.59)	0.02 (0.01 - 0.05)	2.79 (1.49 - 4.64)
	29m	0.01 (0 - 0.01)	2.5 (1.33 - 4.18)	0.02 (0.01 - 0.05)	2.53 (1.36 - 4.23)
	30m	0.01 (0 - 0.01)	2.28 (1.21 - 3.81)	0.02 (0.01 - 0.04)	2.31 (1.23 - 3.85)
	31m	0.01 (0 - 0.01)	2.07 (1.1 - 3.48)	0.02 (0.01 - 0.04)	2.1 (1.12 - 3.51)
	32m	0.01 (0 - 0.01)	1.88 (1 - 3.17)	0.02 (0 - 0.04)	1.91 (1.02 - 3.2)
	33m	0 (0 - 0.01)	1.71 (0.91 - 2.9)	0.02 (0 - 0.03)	1.73 (0.93 - 2.92)
	34m	0 (0 - 0.01)	1.56 (0.82 - 2.64)	0.01 (0 - 0.03)	1.57 (0.84 - 2.66)
	35m	0 (0 - 0.01)	1.41 (0.75 - 2.4)	0.01 (0 - 0.03)	1.43 (0.76 - 2.42)

3.2. Distributional response modelling

Distributional response modelling for Variation 01 predicted kittiwake mortalities of 1 adult and 9 chicks as a result of the Project (HiDef, 2023). The current modelling predicts mortalities of 0.9 adults and 1.0 chicks from distributional effects of the Project (Table 3.4), with the largest impacts predicted at Dunnet Head.

Table 3.4: Mortality of kittiwake predicted to five sub-sites within the NCC SPA. All adult estimates are from 'moderate' years.

Colony	Baseline adult mass loss (%)	Baseline Adult Mortality		Adult Mortality with Development		Additional adult mortality	Additional Chick mortality (%)	Additional chick mortality (individuals)
		Mean	SD	Mean	SD	Mean number of adults	Mean	
Duncansby Head	7.86	308.00	5.85	308.0	5.85	0	0.0	0
Dunnet Head	7.76	1026.90	10.91	1027.70	10.57	0.8	0.03	0.6
Holburn Head	7.69	37.00	0.94	37.0	0.94	0	0.18	0.1
Melvich	7.22	1517.60	17.26	1517.70	17.19	0.1	0.01	0.3
Stroma	7.67	66.10	1.66	66.10	1.66	0	0	0
TOTAL						**0.9**		**1.0**

3.3. Project-only impacts for use in population modelling

A summary of inputs to PVAs for Project-only impacts using Variation 02 updated CRM estimates, but retaining Variation 01 SeabORD impacts (Assessment Condition 1) is provided in Table 3.5.

Table 3.5: Derivation of impacts for Assessment Condition 1 (Project-only; updated CRM; SeabORD as per Variation 01)

	Design Scenario								
	1 (6x18 MW)			2 (5x18 MW)			3 (6x15 MW)		
	Airgap options (m)								
	30	31	32	28	29	30	28	29	30
Adults									
Collision to adults only	2.87	2.61	2.37	2.90	2.63	2.40	2.79	2.53	2.31
SeabORD adult impact					1				
Total impacts to adults only	3.87	3.61	3.37	3.90	3.63	3.40	3.79	3.53	3.31
Adult population					11,146				
Proportional impacts to adults	0.00035	0.00032	0.00030	0.00035	0.00033	0.00031	0.00034	0.00032	0.00030
Immatures									
Collision to immatures	0.19	0.17	0.16	0.19	0.18	0.16	0.19	0.17	0.15
Immature population					7430.67				
Proportional impact to immatures	0.00003	0.00002	0.00002	0.00003	0.00002	0.00002	0.00003	0.00002	0.00002
Juveniles									
SeabORD chick mortality					9				
Chick population					5,573				
Proportional impacts to chicks					0.00161				

A summary of inputs to PVAs for Project-only impacts using Variation 02 updated CRM estimates and Variation 02 updated SeabORD impacts (Assessment Condition 2) is provided in Table 3.6

Table 3.6: Derivation of impacts for Assessment Condition 2 (Project-only; updated CRM; updated SeabORD)

	Design Scenario								
	1 (6x18 MW)			2 (5x18 MW)			3 (6x15 MW)		
	Airgap options (m)								
	30	31	32	28	29	30	28	29	30
Adults									
Collision to adults only	2.87	2.61	2.37	2.90	2.63	2.40	2.79	2.53	2.31
SeabORD adult impact					0.9				
Total impacts to adults only	3.77	3.51	3.27	3.80	3.53	3.30	3.69	3.43	3.21
Adult population					11,146				
Proportional impacts to adults	0.00034	0.00031	0.00029	0.00034	0.00032	0.00030	0.00033	0.00031	0.00029
Immatures									
Collision to immatures	0.19	0.17	0.16	0.19	0.18	0.16	0.19	0.17	0.15
Immature population					7430.67				
Proportional impact to immatures	0.00003	0.00002	0.00002	0.00003	0.00002	0.00002	0.00003	0.00002	0.00002
Juveniles									
SeabORD chick mortality					1				
Chick population					5,573				
Proportional impacts to chicks					0.00018				

3.4. In-combination impacts for use in population modelling

A summary of inputs to PVAs for in-combination impacts using Variation 02 updated CRM estimates, but retaining Variation 01 SeabORD impacts (Assessment Condition 3) is provided in Table 3.7.

Table 3.7: Derivation of impacts for Assessment Condition 3 (In-combination; updated CRM; SeabORD as per Variation 01)

	Design Scenario								
	1 (6x18 MW)			2 (5x18 MW)			3 (6x15 MW)		
	Airgap options (m)								
	30	31	32	28	29	30	28	29	30
Adults									
Project-only adult impacts	3.87	3.61	3.37	3.90	3.63	3.40	3.79	3.53	3.31
Impacts from other projects to adults					24.41				
Total in-combination impact to adults	28.28	28.02	27.78	28.31	28.04	27.81	28.2	27.94	27.72
Adult population					11,146				
Proportional impacts to adults	0.00254	0.00251	0.00249	0.00254	0.00252	0.00250	0.00253	0.00251	0.00249
Immatures									
Project-only immature impacts	0.19	0.17	0.16	0.19	0.18	0.16	0.19	0.17	0.15
Impacts from other projects to immatures					13.13				
Total in-combination impacts to immatures	13.32	13.30	13.29	13.32	13.31	13.29	13.32	13.30	13.28
Immature population					7430.67				
Proportional impact to immatures	0.00179	0.00179	0.00179	0.00179	0.00179	0.00179	0.00179	0.00179	0.00179
Juveniles									
Project-only juvenile impacts					9				
Impacts from other projects to juveniles					12.60				
Total in-combination impacts to juveniles					21.6				
Juvenile population					5,573				
Proportional impacts to chicks					0.00388				

A summary of inputs to PVAs for in-combination impacts using Variation 02 updated CRM estimates and Variation 02 updated SeabORD impacts (Assessment Condition 4) is provided in Table 3.8.

Table 3.8: Derivation of impacts for Assessment Condition 4 (In-combination; updated CRM; updated SeabORD)

	Design Scenario								
	1 (6x18 MW)			2 (5x18 MW)			3 (6x15 MW)		
	Airgap options (m)								
	30	31	32	28	29	30	28	29	30
Adults									
Project-only adult impacts	3.77	3.51	3.27	3.80	3.53	3.30	3.69	3.43	3.21
Impacts from other projects to adults					24.41				
Total in-combination impact to adults	28.18	27.92	27.68	28.21	27.94	27.71	28.1	27.84	27.62
Adult population					11,146				
Proportional impacts to adults	0.00253	0.00250	0.00248	0.00253	0.00251	0.00249	0.00252	0.00250	0.00248
Immatures									
Project-only immature impacts	0.19	0.17	0.16	0.19	0.18	0.16	0.19	0.17	0.15
Impacts from other projects to immatures					13.13				
Total in-combination impacts to immatures	13.32	13.30	13.29	13.32	13.31	13.29	13.32	13.30	13.28
Immature population					7430.67				
Proportional impact to immatures					0.00179				
Juveniles									
Project-only juvenile impacts					1				
Impacts from other projects to juveniles					12.60				
Total in-combination impacts to juveniles					13.60				
Juvenile population					5,573				
Proportional impacts to chicks					0.00244				

3.5. Population modelling

Results from PVAs are presented in Table 3.9 for Assessment Conditions 1 – 4 as set out in Section 2.3.2.

Table 3.9: PVA results for selected airgap options for each Design Scenario for each Assessment Condition. *Impacts are presented without variation due to the complexity of combining uncertainty from sCRM and SeabORD.

Project-only / In-combination	Impact or PVA Output	Models updated and PVA output values	Assessment Condition	Variation 01 consented values	Variation 02 Design Scenarios								
					1 (6 x 18 MW)			2 (5 x 18 MW)			3 (6 x 15 MW)		
					Airgap options (m)								
					30	31	32	28	29	30	28	29	30
Project-only	Impact*	CRM updated	1	**3.24**	**3.87**	3.61	3.37	**3.90**	3.63	3.40	**3.79**	3.53	3.31
	PVA output	CGR		**0.999 (0.997 – 1.000)**	**0.999 (0.998 - 1.001)**	0.999 (0.998 - 1.001)	0.999 (0.998 - 1.001)	**0.999 (0.998 - 1.001)**	0.999 (0.998 - 1.001)	0.999 (0.998 - 1.001)	**0.999 (0.998 - 1.001)**	0.999 (0.998 - 1.001)	0.999 (0.998 - 1.001)
		CPS (25 years)		**0.983 (0.937-1.030)**	**0.982 (0.936 - 1.033)**	0.983 (0.936 - 1.034)	0.984 (0.937 - 1.032)	**0.982 (0.936 - 1.033)**	0.983 (0.935 - 1.033)	0.983 (0.936 - 1.033)	**0.982 (0.935 - 1.033)**	0.983 (0.935 - 1.035)	0.983 (0.936 - 1.033)
	Impact*	CRM and SeabORD updated	2	**3.24**	**3.77**	3.51	3.27	**3.80**	3.53	3.30	**3.69**	3.43	3.21
	PVA output	CGR		**0.999 (0.997 – 1.000)**	**1 (0.998 - 1.001)**	1 (0.998 - 1.001)	1 (0.998 - 1.001)	**1** (0.998 - 1.001)	1 (0.998 - 1.001)	1 (0.998 - 1.001)	**1 (0.998 - 1.001)**	1 (0.998 - 1.001)	1 (0.998 - 1.001)
		CPS (25 years)		**0.983 (0.937-1.030)**	**0.992 (0.946 - 1.043)**	0.994 (0.945 - 1.045)	0.994 (0.944 - 1.043)	**0.993 (0.944 - 1.044)**	0.993 (0.945 - 1.043)	0.994 (0.946 - 1.043)	**0.993 (0.945 - 1.042)**	0.994 (0.946 - 1.045)	0.993 (0.945 - 1.044)

Project-only / In-combination	Impact or PVA Output	Models updated and PVA output values	Assessment Condition	Variation 01 consented values	Variation 02 Design Scenarios								
					1 (6 x 18 MW)			2 (5 x 18 MW)			3 (6 x 15 MW)		
					Airgap options (m)								
					30	31	32	28	29	30	28	29	30
In-combination	Impact*	CRM updated	3	**27.65**	**28.28**	28.02	27.78	**28.31**	28.04	27.81	**28.2**	27.94	27.72
	PVA output	CGR		**0.996 (0.994 - 0.998)**	**0.996 (0.995 - 0.998)**	0.996 (0.995 - 0.998)	0.996 (0.995 - 0.998)	**0.996 (0.995 - 0.998)**	0.996 (0.995 - 0.998)	0.996 (0.995 - 0.998)	**0.996 (0.995 - 0.998)**	0.996 (0.995 - 0.998)	0.996 (0.995 - 0.998)
		CPS (25 years)		**0.909 (0.863 - 0.955)**	**0.908 (0.865 - 0.955)**	0.909 (0.864 - 0.954)	0.909 (0.863 - 0.954)	**0.908 (0.865 - 0.955)**	0.909 (0.863 - 0.955)	0.909 (0.865 - 0.957)	**0.908 (0.863 - 0.956)**	0.909 (0.865 - 0.955)	0.909 (0.864 - 0.956)
	Impact*	CRM and SeabORD updated	4	**27.65**	**28.18**	27.94	27.68	**28.21**	27.94	27.71	**28.10**	27.84	27.62
	PVA output	CGR		**0.996 (0.994 - 0.998)**	**0.997 (0.995 - 0.998)**	0.997 (0.995 - 0.998)	0.997 (0.995 - 0.998)	**0.997 (0.995 - 0.998)**	0.997 (0.995 - 0.998)	0.997 (0.995 - 0.998)	**0.997 (0.995 - 0.998)**	0.997 (0.995 - 0.998)	0.997 (0.995 - 0.998)
		CPS (25 years)		**0.909 (0.863 - 0.955)**	**0.918 (0.873 - 0.963)**	0.919 (0.872 - 0.966)	0.919 (0.874 - 0.966)	**0.918 (0.872 - 0.965)**	0.918 (0.874 - 0.966)	0.919 (0.874 - 0.965)	**0.918 (0.873 - 0.966)**	0.919 (0.874 - 0.966)	0.919 (0.873 - 0.965)

4. Conclusions

On the basis of revised CRM, and without consideration of revisions to distributional response impact calculations, the Project considers that the following preferred Variation 02 Design Scenario airgap options do not result in appreciable differences to population consequences to kittiwake from NCC SPA, compared to levels of impact consented in relation to Variation 01:

- Variation 02 - Design Scenario 1 (Six 18 MW turbines with 260 m rotor diameter) – 30 m airgap
- Variation 02 - Design Scenario 2 (Five 18 MW turbines with 260 m rotor diameter) – 28 m airgap
- Variation 02 - Design Scenario 3 (Six 15 MW turbines with 236 m rotor diameter) – 28 m airgap

For each of the above Variation 02 Design Scenarios and selected airgap options, before consideration of potential revisions to distributional response impact calculations, PVA CGR [Counterfactual of Growth Rate] outputs are the same (to 3 decimal places) as those consented in relation to Variation 01 (CGR = 0.999 Project only and 0.996 in-combination), for the Section 36 Consent, the Offshore Wind Farm Marine Licence and the Offshore Transmission Infrastructure Marine Licence.

For consented levels of Project-only impact associated with Variation 01, kittiwake populations from NCC SPA after the 25 year operational lifespan of the Project were estimated to be 1.7% smaller than in the absence of the Project. The equivalent population reductions for Variation 02 would be:

- 1.8% in relation to Variation 02 - Design Scenario 1 (Six 18 MW turbines, with 260 m rotor diameter) – 30 m airgap
- 1.8% in relation to Variation 02 - Design Scenario 2 (Five 18 MW turbines, with 260 m rotor diameter) – 28 m airgap
- 1.8% in relation to Variation 02 - Design Scenario 3 (Six 15 MW turbines, with 236 m rotor diameter) – 28 m airgap

For consented levels of in-combination impact associated with Variation 01, kittiwake populations from NCC SPA after the 25 year operational lifespan of the Project were estimated to be 9.1% smaller than in the absence of the Project (and other relevant projects). The equivalent population reductions for Variation 02 would be:

- 9.2% in relation to Variation 02 - Design Scenario 1 (Six 18 MW turbines, with 260 m rotor diameter) – 30 m airgap
- 9.2% in relation to Variation 02 - Design Scenario 2 (Five 18 MW turbines, with 260 m rotor diameter) – 28 m airgap
- 9.2% in relation to Variation 02 - Design Scenario 3 (Six 15 MW turbines, with 236 m rotor diameter) – 28 m airgap

Such differences in population predictions between Variation 01 and each of the Variation 02 Design Scenarios with selected airgap options would not be measurable against background levels of variability within the kittiwake population of NCC SPA. Given that levels of impact associated with Variation 01 have been agreed by regulators as not constituting potential adverse effect on site integrity (AEOSI) to the designated kittiwake feature of NCC SPA, it follows that impacts for Variation 02 Design Scenarios with selected airgap options, which would have indistinguishable population consequences to Variation 01, would also not constitute potential AEOSI.

Furthermore, when revisions to distributional response impact calculations are considered in addition to revised CRM, it is notable that for each of the above Variation 02 Design Scenarios and selected airgap options, population consequences to kittiwake from NCC SPA are predicted to be less than those consented in relation to Variation 01.

For each of the above Variation 02 Design Scenarios and selected airgap options, after consideration of revisions to distributional response impact calculations, project-only and in-combination PVA CGR outputs are 0.001 higher

than those consented in relation to Variation 01 [Project-only impacts CGR = 0.999 for Variation 01 and CGR = 1.000 for all Variation 02 Design Scenarios with selected airgap options. In-combination impacts CGR = 0.996 for Variation 01 and CGR = 0.997 for all Variation 02 Design Scenarios with selected airgap options].

For each of the above Variation 02 Design Scenarios and selected airgap options, after consideration of revisions to distributional response impact calculations, project-only and in-combination PVA CPS outputs after 25 years of impacts are 0.009 to 0.010 higher than those consented in relation to Variation 01. [Project-only impacts CPS = 0.983 for Variation 01, while CPS = 0.992 for Variation 02 Design Scenario 1 and CPS = 0.993 for Design Scenarios 2 and 3 with selected airgap options. In-combination impacts, CPS = 0.909 for Variation 01 and CPS = 0.918 for all Variation 02 Design Scenarios with selected airgap options].

Again, it follows that impacts for Variation 02 Design Scenarios with selected airgap options, which would be predicted to have smaller population consequences (i.e. higher CGR and CPS values) than those consented in relation to Variation 01, would also not constitute potential AEOSI.

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Appendix 4 – SLVIA Comparison

Appendix 4.1 – SLVIA Comparison Report

Pentland Floating Offshore Wind Farm

Section 36 Consent – Variation 02

Copenhagen Offshore Partners

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SLR Project No.: 405.V14065.00007

Client Reference No: OP.HIL002

19 January 2026

Revision 8

1.0 Background

1.1 Highland Wind Limited (HWL) was awarded Section 36 Consent ('the Original S36 Consent') under the Electricity Act 1989 by the Scottish Ministers on 28 June 2023 for the offshore generation components of the Pentland Floating Offshore Wind Farm (PFOWF) (the 'Project'). On 11 October 2023, HWL requested a variation to the Original S36 Consent to reduce the number of Wind Turbine Generators (WTGs) and floating substructures from seven to six, reduce the maximum height, rotor diameter and hub height of the WTGs, reduce the WTG footprint area from 10km^2 to 5.85km^2 and to extend the operational life of the Project consent from 10 years to 25 years. The varied design (Variation 01) remained within the design envelope assessed in the Environmental Impact Assessment Report (EIAR), submitted in August 2022 (the 'Original EIAR'). The Variation 01 project design was consented in April 2024 (the 'Consented Project').

1.2 The Original S36 Consent comprised seven WTGs of dimensions up to a 260m rotor diameter, 170m hub height and 300m blade tip height. The 2023 variation to the Section 36 Consent (Variation 01) comprised five WTGs of dimensions up to a 250m rotor diameter, 160m hub height and 285m blade tip height, and one WTG of dimensions up to a 220m rotor diameter, 145m hub height and 255m blade tip height.

1.3 The proposed 2026 variation to the Section 36 Consent (Variation 02) comprises six WTGs located in the same positions as the WTGs assessed in the Variation 01 application, but with an increase in the WTG dimensions up to a maximum of a 260m rotor diameter, 190m hub height and 300m blade tip height. This represents a return to the maximum dimensions consented under the Original S36 Consent, although the number of WTGs remains reduced from seven to six, as is the case with the Consented Project.

2.0 Introduction

2.1 This report has been prepared by SLR Consulting Limited in relation to Variation 02 for the Project. It sets out a comparison between the Original S36 consent, the Consented Project (assessed in Variation 01), and Variation 02, the current proposal. This report should be read in conjunction with the comparative wirelines presented in Figure S32C-1 to Figure S32C-10 and the updated cumulative wirelines and plan presented in Figure S32C-11 to Figure S32C-21, which accompany this report.

2.2 The number and dimensions of the WTGs for the Original S36 Consent, the Consented Project (assessed in Variation 01) and the proposed Variation 02 are set out in Table A below.

Table A: Comparison between the Original S36 Consent, the Consented Project and Proposed Variation 02 WTG dimensions

Layout	Number of WTGs	Rotor Diameter	Hub Height
Original S36 Consent	7 in total	7 WTG @ 260m	7 WTG @ 170m
Consented Project (Variation 01)	6 in total	5 WTG @ 250m 1 WTG @ 220m	5 WTG @ 160m 1 WTG @ 145m
Proposed Variation 02	**6 in total**	**6 WTG @ 260m**	**6 WTG @ 170m**

2.3 The table illustrates an increase in maximum dimensions for the six WTGs assessed in the Consented Project (Variation 01) and proposed in Variation 02, with rotor diameter and hub

height increased by 10m and the blade tip height increased by 15m for the five WTGs. For the one smaller WTG in the Consented Project, the increases will be 40m for rotor diameter, 25m for hub height and 45m for blade tip height. The layout of the WTGs remains unaltered, although it should be noted that the layout is indicative and has been used to illustrate a worst-case scenario by locating the WTGs at the furthest extents of the WTG footprint area, whilst also keeping the WTGs closest to shore.

2.4 While the maximum hub height is 190m, the overall worst-case scenario for Seascape, Landscape and Visual Impact Assessment (SLVIA) will comprise the maximum dimensions for blade tip height (300m) and rotor dimensions (260m) which leads to the slightly lower hub height of 170m. This was the worst-case scenario applied in the Original EIAR to also ensure that the maximum blade tip height and maximum rotor diameter were applied.

2.5 This report considers how the changes to the maximum WTG dimensions proposed for Variation 02 will alter the appearance of the Project and how they may affect the potential seascape, landscape and visual effects that were re-assessed in the SLVIA for Variation 01 which is the currently Consented Project.

2.6 It should also be highlighted that consent for the original project design, the Original S36 Consent, comprising seven turbines at 300m, was granted in 2023. Seascape, landscape and visual effects for this larger scheme were considered acceptable and, therefore, reference is also made to the Original S36 Consent, where appropriate.

3.0 Methodology

3.1 The aim of this assessment is to compare the effects of Variation 02 with the effects of the Consented Project, assessed in Variation 01. The methodology used for this review is consistent with the SLVIA Methodology presented in the Original EIAR. The effects of Variation 02 are assessed against the baseline comprising the Consented Project (Variation 01) which, owing to its consented status, can be regarded as part of the ‘predicted baseline’.

3.2 The assessment takes account of the acceptability of the offshore wind farm development in this location and of this scale, as denoted through the previous consent of both the original project design (consented in 2023) and the Variation 01 project design (consented in 2024), and therefore assesses the magnitude of change arising from changes to the WTG dimensions relative to the Consented Project.

4.0 Cumulative Context

4.1 When submitting a variation to a consented wind farm development it is usual practice to prepare a revised cumulative assessment, taking into account any changes to the cumulative context that may have occurred since the Project was consented.

4.2 The Variation 01 application did not include a revised cumulative assessment as, following a review of the cumulative context, it was not deemed necessary as there had been no material change to this since the Original EIAR was submitted.

4.3 A review of the cumulative context was carried out in September 2025, to inform the request for a Screening Opinion and again in January 2026 to inform the Variation 02 Application, and this is illustrated on Figure S36C-11. The main changes in the cumulative context since the Original EIAR and Variation 01 application, are the construction of Limekiln Wind Farm and Extension, which are now operational. This development comprises 24 WTGs with a blade tip height of 149.9m, located in the Limekiln coniferous plantation approximately 3km to the south of Reay. The construction of Strathy Wood, Strathy South, Golticlay Variation and Forss III has also started. This changes the status of the Limekiln Wind Farm from consented to operational: Limekiln Extension from application to operational: Forss III (single turbine) from application to under construction; and Strathy Wood, Strathy South and

Golticlay Variation from consented to under construction, making these wind farms part of the baseline assessment rather than just the cumulative assessment.

4.4 Other updates to the cumulative context since the Variation 01 application, which are relevant to the comparative assessment, include: the consenting of Bettyhill Phase 2 to the south of the operational Bettyhill and Achlachan 2 Redesign Extension; and the applications for Melvich and Kirkton Energy Park (at appeal) proposed to the west of the A897, south of Melvich Bay. The scoping stage Cairnmore Hill Resubmission also came forward as an application and is now at appeal whilst the scoping stage Golticlay Extension (Stemster site) moved forward to Application

4.5 Some projects that were considered in the Original EIAR are no longer in the planning system. This includes the removal of Ackron Wind Farm from the planning system and the dismissal of Drum Hollistan at appeal. However, a further resubmission for Ackron has now been scoped.

4.6 Within the cumulative assessment West of Orkney Wind Farm has changed in status from scoping to consented stage, which has enabled the proposed layout to be included in the cumulative wirelines and the assessment.

4.7 In the Original EIAR the West of Orkney Wind Farm was included in the Scenario 3 cumulative assessment but is now included in Scenarios 1, 2 and 3.

4.8 Whilst there are other changes to the cumulative context for Variation 02, these are unlikely to materially alter its cumulative effect.

5.0 Comparative Assessment of Visual Effects

5.1 Comparative wirelines have been prepared which illustrate the changes in appearance between the Consented Project (Variation 01) and Variation 02. These are presented in Figure S32C-1 to Figure S32C-10 that accompany this report. The ‘a’ figures present the wirelines included in the Variation 01 application, while the ‘b’ figures present the wirelines for Variation 02. As for the Variation 01 application, ten of the key viewpoints from the Original EIAR, which show the fullest visibility of the Project, have been selected to represent the proposed changes.

5.2 As the Consented Project and Variation 02 comprise the same number of WTGs located in the same positions, the focus of the reassessment is the difference between the dimensions of the WTGs. The increase of the rotor diameter and hub height by 10m and the blade tip height by 15m for five of the WTGs, indicates the incremental nature of the change and explains why there is very little perceptible difference between the Consented Project design presented in Variation 01 and the proposed project design presented in Variation 02, as illustrated in the wirelines.

5.3 The smaller dimensions of the one smaller WTG in the Variation 01 wirelines make it appear further away. While the increases in dimensions for Variation 02 for this WTG are more notable, these simply make the WTG appear the same size as the other WTGs and more part of the group than appearing more distant. This change, therefore, has a positive rather than a negative effect on the appearance of the WTGs, by increasing consistency between the WTGs. To avoid repetition, this point applies to the updated comparative assessments for all of the viewpoints presented in Table B below.

5.4 A comparative assessment of the Consented Project assessed in Variation 01, and Variation 02 is presented. This highlights that although there is a small increase in the dimensions of the WTGs for Variation 02, these differences would not be sufficient to alter the rating of magnitude of change or change a not significant effect into a significant effect. This conclusion is consistent with the Variation 01 SLVIA Report which stated that, conversely,

the incremental reduction in height would not alter the rating of magnitude of change or change a significant effect into a not significant effect.

5.5 The Variation 01 application presented a layout in which the WTGs were notably more compact than the Original Application. As the Variation 02 WTGs are in the same locations as the Variation 01 WTGs, this means that the improvements of the reduced footprint, when compared to the Original Application, are carried over into Variation 02.

5.6 The other factor considered in the reassessment is the additional baseline influence from the operational Limekiln Wind Farm and Extension. This affects the assessment from viewpoints in which Limekiln Wind Farm and Extension have a notable close-range effect, establishing a context in which the influence of the more distant Project would be moderated.

Table B: Comparison between assessment of Variation 01 (the Consented Project design) and Variation 02

Viewpoint	Original EIAR	Variation 01 in comparison to the Original Scheme	Variation 02 in comparison to Consented Project (Variation 01)
1 Beinn Ratha	Figure S32C-1a Sensitivity - medium-high Magnitude of change – medium-high Significant at a major / moderate level	Figure S32C-1b Reduction in horizontal extent readily apparent. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and overall effect of introducing WTGs into undeveloped seascape. WTG1 appears slightly larger than the five larger WTGs owing to the location of WTG1 closest to shore and the limited difference in blade tip height of 30 m. The effect will remain significant at a major / moderate level.	Figure S32C-1c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension alters the baseline by establishing a close-range influence from wind farm development, with 24 WTGs readily visible at a minimum of 1.6km to the east. This will reduce the magnitude of change from medium-high to medium. The larger number and perceived larger scale of the Limekiln WTGs, will moderate the influence of the proposed offshore WTGs owing to the closer proximity and greater influence of the Limekiln WTGs. The presence of the under construction Strathy South and Strathy Wood to the west and close to Strathy North; Golticlay Variation to the south-east and the single turbine of Forss III have a limited further influence on the wider context. The effect will remain significant although reducing to a moderate level.
2 Strathy Point Car Park	Figure S32C-2a Sensitivity - medium-high Magnitude of change – medium-high	Figure S32C-2b Reduction in horizontal extent readily apparent, especially with reference to Hoy in background. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental	Figure S32C-2c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension has a limited effect on

Viewpoint	Original EIAR	Variation 01 in comparison to the Original Scheme	Variation 02 in comparison to Consented Project (Variation 01)
	Significant at a major / moderate level	nature of reductions and overall effect of introducing WTGs into undeveloped seascape. WTG1 appears similar in size to the five larger WTGs owing to the location of WTG1 in the row of the array closest to shore and the limited difference in blade tip height of 30 m. The effect will remain significant at a major / moderate level.	the baseline owing to the minimum separation distance of 16km and the extent of screening by landform as experienced from this viewpoint. The Forss III turbine is seen within the immediate context of Forss. This means that despite their addition to the baseline, the magnitude of change will not be altered and will remain medium-high. The effect will remain significant at a major / moderate level.
3 Portskerra /Melvich	Figure S32C-3a Sensitivity - medium-high Magnitude of change – medium-high Significant at a major / moderate level	Figure S32C-3b Reduction in horizontal extent readily apparent and WTGs appear very evenly spaced. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and overall effect of introducing WTGs into undeveloped seascape. WTG1 appears similar in size to the five larger WTGs owing to the limited difference in height of 30 m and the location of WTG1 in the row of the array closest to shore. The effect will remain significant at a major / moderate level.	Figure S32C-3c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension has no effect on the baseline owing to the absence of visibility from this viewpoint. Golticlay Variation and Forss III are also not visible. The effect will remain significant at a major / moderate level.
4 Drum Holliston Car Park	Figure S32C-4a Sensitivity - medium-high Magnitude of change – medium-high Significant at a major / moderate level	Figure S32C-4b Reduction in horizontal extent readily apparent although grouping of WTGs with gap between arises. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and overall effect of introducing WTGs into undeveloped seascape. WTG1 appears slightly larger than the five larger WTGs owing to the location of WTG1 closest to shore and the limited difference in blade tip height of 30 m. The effect will remain significant at a major / moderate level.	Figure S32C-4c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension alters the baseline by establishing a close-range influence from wind farm development, with 24 WTGs readily visible at a minimum of 4.9km to the south-east. While the presence of the Limekiln WTGs, visible in the opposite sector to Variation 02 and the presence of the Forss III turbine will increase the extent and influence of wind farm development in the baseline context, this will not be sufficient to alter the magnitude of change which will remain medium-high.

Viewpoint	Original EIAR	Variation 01 in comparison to the Original Scheme	Variation 02 in comparison to Consented Project (Variation 01)
			The effect will remain significant at a major / moderate level.
5 Sandside Headland	Figure S32C-5a Sensitivity - medium Magnitude of change – medium-high Significant at a moderate level	Figure S32C-5b Reduction in horizontal extent readily apparent although overlap between central WTGs arises. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and overall effect of introducing WTGs into undeveloped seascape. WTG1 appears slightly larger than the five larger WTGs owing to the limited difference in blade tip height of 30 m and the location of WTG1 closest to shore. The effect will remain significant at a moderate level.	Figure S32C-5c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension alters the baseline by establishing a close-range influence from wind farm development, with 24 WTGs readily visible at a minimum of 5.1km to the south. While the presence of the Limekiln WTGs, visible in the opposite sector to Variation 02 and the presence of the Forss III turbine will increase the extent and influence of wind farm development in the baseline context, this will not be sufficient to alter the magnitude of change which will remain medium-high. The effect will remain significant at a moderate level.
6 St Mary's Chapel, Forss	Figure S32C-6a Sensitivity - medium-high Magnitude of change – medium-low Not significant at a moderate level	Figure S32C-6b Reduction in horizontal extent readily apparent and WTGs appear very evenly spaced. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and moderating effect of close range operational Forss WTGs. WTG1 appears similar in size to the five larger WTGs owing to the limited difference in blade tip height of 30 m and the location of WTG1 in the row of the array closest to shore. The effect will remain not significant at a moderate level.	Figure S32C-6c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension has no effect on the baseline owing to the absence of visibility from this viewpoint. The Forss III turbine will be visible at close range, extending the wind farm influence of Forss beyond the Chapel wall. The effect will remain not significant at a moderate level.
7 Dunnet Head	Figure S32C-7a Sensitivity - medium-high Magnitude of change – medium-low	Figure S32C-7b Reduction in horizontal extent apparent, albeit less so from more distant range and with grouping of WTGs remaining. Although there will be a slight reduction in the magnitude	Figure S32C-7c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint.

Viewpoint	Original EIAR	Variation 01 in comparison to the Original Scheme	Variation 02 in comparison to Consented Project (Variation 01)
	Significant at a moderate level	of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and moderating effect of separation distance and other distant wind farm influences. Any differences in blade tip height between the WTGs will not be discernible from this viewpoint owing to the separation distance of 28km. The effect will remain significant at a moderate level.	The presence of Limekiln Wind Farm and Extension will have a limited effect on the baseline owing to its location a minimum of 26.2km to the east of the viewpoint and the baseline influence from other closer range wind farms in the same and other sectors. There will be no change to the magnitude of change, and the effect will remain significant at a moderate level.
10 A836 East of Forss	Figure S32C-8a Sensitivity - medium-high or medium Magnitude of change – medium-low Not significant at a moderate level	Figure S32C-8b Reduction in horizontal extent readily apparent and WTGs appear very evenly spaced. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and moderating effect of operational wind farms and other developments. WTG1 appears similar in size to the five larger WTGs owing to the limited difference in height of 30 m and the location of WTG1 in the row of the array closest to shore. The effect will remain not significant at a moderate level.	Figure S32C-8c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension has a limited effect on the baseline owing to the closer range influence of Baillie Hill Wind Farm at 4.0km and Forss Wind Farm at 3.4km. The location of Limekiln Wind Farm and Extensions is 10.3km from the viewpoint and set behind Baillie Hill Wind Farm. Forss III will be seen in the same part of the view as Forss. This means that despite their addition to the baseline, the magnitude of change will not be altered and will remain medium-low. The effect will remain not significant at a moderate level.
13 A' Mhoine	Figure S32C-9a Sensitivity - high Magnitude of change – low Not significant at a moderate / minor level	Figure S32C-9b Reduction in horizontal extent apparent, albeit less so from more distant range and with WTGs visible to only very limited extents. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and moderating effect of separation distance and limited extents of visibility. Any differences in height between the WTGs will not be discernible from this viewpoint owing to the separation distance of 34km and the screening effect of the intervening landform.	Figure S32C-9c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension has no effect on the baseline owing to the absence of visibility from this viewpoint. The effect will remain not significant at a moderate / minor level.

Viewpoint	Original EIAR	Variation 01 in comparison to the Original Scheme	Variation 02 in comparison to Consented Project (Variation 01)
		The effect will remain not significant at a moderate / minor level.	
14 Ben Dorrery	Figure S32C-10a Sensitivity - medium Magnitude of change – medium-low Not significant at a moderate / minor level	Figure S32C-10b Reduction in horizontal extent readily apparent and spacing of WTGs improved. Although there will be a slight reduction in the magnitude of change, the overall assessment will remain unaltered owing to the incremental nature of reductions and moderating effect of separation distance and other distant wind farm influences. WTG1 appears similar in size to the five larger WTGs owing to the limited difference in blade tip height of 30 m and the location of WTG1 in the row of the array closest to shore. The effect will remain not significant at a moderate / minor level.	Figure S32C-8c Variation 02 will give rise to a 15m increase in blade tip height compared to Variation 01; a difference which will not be readily discernible from this viewpoint. The presence of Limekiln Wind Farm and Extension has a limited effect on the baseline owing to the influence of Baillie Hill Wind Farm at 10.1km in the same sector of the view and the wider influence of wind farm development with a dense cluster at 9.0km to the south-east including Achlachan, Camster, Causeymire and Halsary. The presence of Strathy South and Strathy Wood have a limited effect on the baseline context due to distance and intervening landform. Forss III and Golticlay Variation, although visible have a limited effect on the baseline context due to their separation distance and locations within parts of the view affected by wind farms. The magnitude of change will not be altered and will remain medium-low. The effect will remain not significant at a moderate / minor level.

6.0 Comparative Assessment of Cumulative Effects

6.1 This comparative cumulative assessment presents a comparison with the assessment presented in the Original EIAR. Information has been collected to present the current cumulative context in the Study Area (the associated 50 km around the Array Area), as defined for the Original Application and the Consented Project (Variation 01). A reassessment of the cumulative effects was not undertaken as part of the Variation 01 application as there were no notable changes to the cumulative baseline at the time of application which would have notably altered the cumulative assessment.

6.2 The methodology for this comparative cumulative assessment follows the methodology set out in the SLVIA of the Original EIAR.

6.3 All operational and under construction wind farms have been included as part of the baseline situation in the main assessment. The cumulative effect of the Project in conjunction with the operational and under construction wind farms and other large-scale energy developments is also considered as part of the baseline in relation to the following cumulative scenarios.

- Cumulative Scenario 1 assesses the effects of adding the Project to a cumulative situation comprising all operational, under construction and **consented** wind farms and other large-scale energy developments.
- Cumulative Scenario 2 assesses the effects of adding the Project to a cumulative situation comprising all operational, under construction, consented and **application or appeal stage** wind farms and other large-scale energy developments.
- Cumulative Scenario 3 assesses the effects of adding the Project to a cumulative situation comprising all operational, under construction, consented, application wind farms and other large-scale energy developments as well as relevant **scoping stage** wind farms.

6.4 Projects that are at the pre-planning or scoping stage are generally not considered in the assessment of cumulative effects because firm information on which to base the assessment is not available. Ackron Resubmission, which is an onshore wind farm at the scoping stage, has been included owing to its close proximity to a number of the representative viewpoints.

6.5 The most notable changes to the baseline and cumulative context at Scenario 1 is the change in status of Limekiln Wind Farm from consented to operational and Limekiln Extension from application to operational. Strathy Wood and Strathy South have also changed from consented to being under construction, however, their influence on the cumulative context is less marked due to their location further inland and to the south of the operational Strathy North. The change in status from scoping to consented of the Betty Hill Extension/Phase 2 will have an influence further west. To the east the single turbine of Forss III has changed in status from consented to under construction, immediately adjacent to the consented Hill of Lybster and the operational Forss turbines. To the south-east Achlachan 2 has changed from application stage to consented but is immediately adjacent to the Achlachan operational turbines so will have little additional influence at >30km range. Further to the south-east the Golticlay Variation wind farm was consented and is now under construction, however, its location over 40km from the Project means it will have a limited contribution to the cumulative context. The change in status of the West of Orkney Wind Farm from scoping to consented makes it the most notable cumulative influence in Scenario 1.

6.6 The removal of Drum Hollistan will reduce the cumulative interactions associated with onshore wind farms at Scenario 2. However, the application and appeal status of the Melvich (reduced to four turbines) and Kirkton Energy Park respectively and the appeal status of the Cairnmore Hill resubmission add to the cumulative interactions with onshore wind farms inland from the coast. Other more distant wind farm additions have lesser influence on the cumulative context for the Project

6.7 Scenario 3 considers all of the projects considered in Scenarios 1 and 2 and also includes the revised Ackron resubmission which is currently at scoping stage, due to its proximity to the Consented Project and the coastline.

6.8 Table C sets out the reassessment of the cumulative effects. Whilst the potential changes to the cumulative context generally result in some minor alterations to the cumulative magnitude of change, grey boxes denote where the assessment of effects has changed from being not significant in the Original EIAR assessment, to significant in this Variation 02 assessment or vice versa. The predominance of white boxes highlights the few incidences of a changed assessment. Essentially the Project will be added into a cumulative context in which onshore wind farm development already has an influence and in which offshore wind farm development will also have an influence in Scenarios 1, 2 and 3. This baseline influence generally moderates the additional influence of the Project, particularly as it comprises a very small number of turbines, for example, compared to the much larger, consented, West of Orkney Wind Farm.

6.9 Changes to the Scenario 1 cumulative assessment occur in respect of Viewpoint 2: Strathy Point Car Park and Viewpoint 3: Portkskerra/Melvich where the cumulative magnitude of change has increased to medium and moderate significant effects are assessed. The West of Orkney Wind Farm establishes a cumulative context whereby it would appear as a large scale but distant incidence of offshore wind farm development with the Project appearing distinct from it and closer to these viewpoints but with a smaller horizontal field of view.

6.10 Changes to the Scenario 2 cumulative assessment occur in respect of Viewpoint 1: Beinn Ratha, and Viewpoint 2: Strathy Point Car Park where the cumulative magnitude of change has increased to medium and moderate significant effects are assessed, largely as a result of the influence of West of Orkney Wind Farm, which is part of the Scenario 2 context with some additional onshore wind farms also visible.

6.11 These are not new or additional effects of the Project, as such effects were assessed within the Original EIAR when it was assessed in the cumulative context of West of Orkney Wind Farm in Scenario 3. Such effects were considered acceptable in the consenting of the original Project design, which had a larger footprint (and horizontal field of view) than the proposed Variation 02.

6.12 Changes to the Scenario 3 cumulative assessment have not given rise to any changes to the significance when compared with the Original EIAR assessment.

Table C: Comparative Assessment of Cumulative Effects

Viewpoint / Sensitivity	Original EIAR Scenario 1	Original EIAR Scenario 2	Original EIAR Scenario 3	Variation 02 Scenario 1	Variation 02 Scenario 2	Variation 02 Scenario 3
1 Beinn Ratha Medium-high	Medium **Significant (moderate)**	Medium-low **Not significant (moderate)**	Medium **Significant (moderate)**	At Scenario 1, Limekiln and Limekiln Extension will be seen at close range and will moderate the cumulative influence of the Project, which will be seen to the fore of the more distant and larger scale West of Orkney wind farm (WF). The presence of the Project at closer range occurs in the same part of the view. Other Scenario 1 projects are more distant and/or their relatively small scale limits their influence on the cumulative context. Medium **Significant (moderate)**	At Scenario 2, there is further influence of onshore wind farm development from Melvich and Kirkton to the west and Cairnmore Resubmission to the north east, beyond the operational Baillie Hill. Other Scenario 2 projects are more distant and/or their relatively small scale limits their influence on the cumulative context. Medium **Significant (moderate)**	At Scenario 3, Ackron Resubmission will further expand onshore wind farm development, and in this context the addition of the Project will also lead to a significant effect. Medium **Significant (moderate)**
2 Strathy Point Car Park Medium-high	Low **Not significant (moderate/minor)**	Medium-low **Not significant (moderate)**	Medium **Significant (moderate)**	At Scenario 1, the Project will be seen in a different part of the sea view to the more distant and larger scale West of Orkney WF and to the fore of the Orkney Islands. Medium **Significant (moderate)**	At Scenario 2, the Project will be seen in a similar context to Scenario 1 with only distant additions to the onshore wind farm context. Medium **Significant (moderate)**	At Scenario 3, Ackron Resubmission will further expand onshore wind farm development, and in this context the addition of the Project will also lead to a significant effect. Medium **Significant (moderate)**
3 Portskerra /Melvich Medium-high	Limited potential for significant cumulative effects	Medium **Significant (moderate)**	Medium **Significant (moderate)**	At Scenario 1, the Project will be seen to the right of the more distant and larger scale West of Orkney WF, to the left of the Orkney Islands. There are no other large scale energy developments readily visible. Medium **Significant (moderate)**	At Scenario 2, Melvich is theoretically visible to the south with a small number of hubs and blades visible above the skyline. However, in reality is screened by the intervening property from this viewpoint. Medium **Significant (moderate)**	At Scenario 3, Ackron Resubmission will further expand onshore wind farm development, and it is in this context that the addition of the Project will also lead to a significant effect. Medium **Significant (moderate)**
4 Drum Holliston Car Park Medium-high	Medium **Significant (moderate)**	Medium **Significant (moderate)**	Medium **Significant (moderate)**	At Scenario 1, the Project will be seen to introduce offshore wind farm development in a cumulative context in which onshore wind farms already have an influence (including Forss III and Hill of Lybster) and will be seen to the fore of the eastern extent of the more distant West of Orkney WF. Medium **Significant (moderate)**	At Scenario 2, the Cairnmore Hill resubmission would be added to the onshore wind farm influence. Medium **Significant (moderate)**	There will be no additional cumulative effect compared to the Scenario 2 assessment as the visibility of Ackron Resubmission is limited to a small tip. Medium **Significant (moderate)**
5 Sandside Headland Medium	Medium **Significant (moderate)**	Medium **Significant (moderate)**	Medium **Significant (moderate)**	At Scenario 1, the Project will be seen to introduce offshore wind farm development in a cumulative context in which onshore wind farms already have an influence (including Forss III and Hill of Lybster), and the Project will be seen to the fore of the eastern extent of the more distant West of Orkney WF. Medium **Significant (moderate)**	At Scenario 2, the Cairnmore Hill resubmission would be added to the onshore wind farm influence. Medium **Significant (moderate)**	There will be no additional cumulative effect compared to the Scenario 2 assessment. Medium **Significant (moderate)**
6 St Mary's Chapel, Forss Medium-high	Limited potential for significant cumulative effects	Medium-low **Not significant (moderate)**	Medium-low **Not significant (moderate)**	At Scenario 1, the close-range influence from operational Forss, under construction Forss III Extension and consented Hill of Lybster wind farms will moderate the cumulative influence of the Project, which will be seen to the fore of the western extent of the more distant West of Orkney WF. Medium **Not significant (moderate)**	At Scenario 2, the Cairnmore Hill Resubmission would be seen to the east close to the skyline, adding to the onshore wind farm context. Medium **Not significant (moderate)**	There will be no material additional cumulative effect compared to the Scenario 2 assessment. Medium **Not significant (moderate)**
7 Dunnet Head Medium-high	Low **Not significant (moderate/minor)**	Low **Not significant (moderate/minor)**	Medium-low **Not significant (moderate)**	At Scenario 1, the distant range of the Project at 28km will limit its influence on the cumulative effect, however it will be seen in a different part of the view from the more distant West of Orkney OWF, extending the wind farm influence across the seascape. It will be seen in the context of the wider	At Scenario 2, there will be an increase in the onshore wind farm context with the addition of Lochend Extension, Cairnmore Hill Resubmission and other more distant onshore wind farms as part of existing clusters. Medium-low	There will be no material additional cumulative effect compared to the Scenario 2 assessment. Medium-low **Not significant (moderate)**

Viewpoint / Sensitivity	Original EIAR Scenario 1	Original EIAR Scenario 2	Original EIAR Scenario 3	Variation 02 Scenario 1	Variation 02 Scenario 2	Variation 02 Scenario 3
				onshore wind farm development which would also include Hollandmey and Slickly as well as other more distant consented onshore wind farms. Medium-low **Not significant (moderate)**	**Not significant (moderate)**	
10 A836 East of Forss Medium-high / Medium	Medium-low **Not significant (moderate)**	Medium-low **Not significant (moderate)**	Medium-low **Not significant (moderate)**	At Scenario 1, the cumulative effect of the Project will be moderated by the closer range influence of operational wind farms along with Forss III (under construction) and Hill of Lybster (consented) and The West of Orkney WF, which extends across the seascape. Medium-low **Not significant (moderate)**	At Scenario 2, Cairnmore Hill Resubmission will be visible at close range and Melvich at a moderate range adding to the onshore wind farm context. Medium-low **Not significant (moderate)**	At Scenario 3, Ackron Resubmission will further expand onshore wind farm development at a moderate distance and partially screened. Its addition to the onshore cumulative context is not material. There will be no additional cumulative effect compared to the Scenario 2 assessment. Medium-low **Not significant (moderate)**
13 A' Mhoine High	Limited potential for significant cumulative effects	Limited potential for significant cumulative effects	Low **Not significant (moderate/minor)**	At Scenario 1, the cumulative effect of the Project will be moderated by the very limited addition it will make in the context of The West of Orkney WF, which extends across the seascape. Low **Not significant (moderate / minor)**	At Scenario 2, there will be no additional cumulative effect compared to the Scenario 1 assessment due to the very limited visibility of other wind farms. Low **Not significant (moderate / minor)**	There will be no additional cumulative effect compared to the Scenario 2 assessment. Low **Not significant (moderate / minor)**
14 Ben Dorrery Medium	Medium-low **Not significant (moderate/minor)**	Medium-low **Not significant (moderate/minor)**	Medium-low **Not significant (moderate/minor)**	At Scenario 1, the cumulative effect of the Project will be moderated by the separation distance and the closer range and wide-spread influence of the onshore wind farms along with the very limited addition it will make in the context of The West of Orkney WF, which extends across the seascape a long distance away. Medium-low **Not significant (moderate/minor)**	At Scenario 2, the influence of onshore wind farms will be added to by a number of application/appeal stage wind farms including Tormsdale, Achlachan 2 Redesign, Cairnmore Hill Resubmission at a moderate distance. Medium-low **Not significant (moderate/minor)**	At Scenario 3, Ackron Resubmission will further expand onshore wind farm development at a moderate distance and partially screened. Its addition to the onshore cumulative context is not material. There will be no additional cumulative effect compared to the Scenario 2 assessment. Medium-low **Not significant (moderate/minor)**

7.0 Summary

7.1 A comparative study of seascape, landscape and visual effects has been conducted between the proposed Variation 02 and the Consented Project assessed in Variation 01, where the WTG parameter changes proposed comprise a small increase in the maximum size of the hub height, rotor diameter and blade tip height, with the WTGs remaining in the same locations as in Variation 01 assessment. The change in the maximum dimensions of the WTGs essentially presents a return to the maximum dimensions presented in the Original EIAR for the Project, albeit with just six turbines included in Variation 02, compared to seven included in the Original EIAR. The presence of operational Limekiln Wind Farm and Extension as part of the baseline has also been considered in the reassessment.

7.2 Comparative wirelines have been used to illustrate the differences in appearance between the Consented Project (Variation 01) and Variation 02 in respect of ten of the 14 viewpoints, used in the SLVIA which show the fullest visibility of the Project. These show the very limited difference that the potential incremental height increase of the WTGs would have. The proposal to have WTGs of a consistent height is considered to be a positive change compared with the Consented Project. The findings of the reassessment are that there will be no change to the occurrence and levels of significance assessed in comparison with the iterations shown in both the Variation 01 application and the Original EIAR, the latter of which included WTGs of the same scale, over a larger footprint and which were considered acceptable.

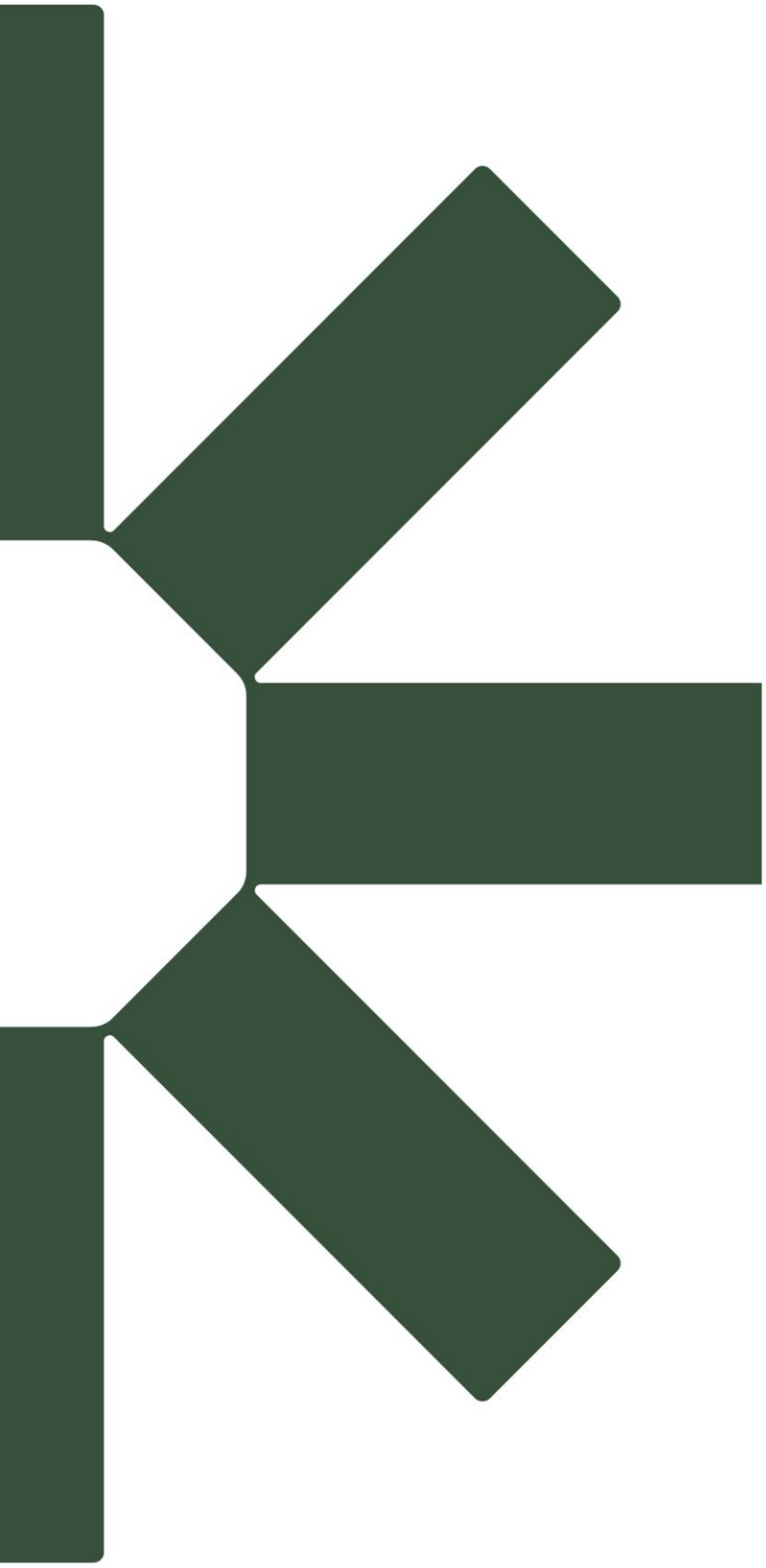
7.3 The only notable difference to the main assessment occurs in respect of Viewpoint 1 Beinn Ratha, where the baseline influence of Limekiln Wind Farm and Limekiln Extension will have a moderating effect, reducing the magnitude of change from medium-high to medium, and while not changing the assessment of a significant effect, reducing the level from major / moderate to moderate.

7.4 Although the status of some of the cumulative projects has changed and some onshore wind farm projects have been removed from or added to the planning system, the findings of the cumulative assessment remain generally consistent with the SLVIA for the Original EIAR with only changes in the assessment of magnitude of change and no changes to the significance of effect. This is owing to a similar context in which the offshore cumulative context is defined by the West of Orkney Wind Farm, albeit changed in status from scoping to consented stage at the time of this assessment; and the onshore context is defined by a combination of Limekiln and Limekiln Extension, Baillie Hill, Forss and Forss III, all of which have a presence and influence along the north coast of Caithness and Sutherland.

7.5 This is with the exception of the assessments for Viewpoint 1 Beinn Ratha, Viewpoint 2 Strathy Point Car Park and Viewpoint 3: Portskerra /Melvich where primarily the change in status of the Limekiln and Limekiln Extension onshore wind farms and the West of Orkney Wind Farm do result in some instances of change to the cumulative assessment. In the Scenario 1 assessment for Viewpoints 2 and 3 the magnitude of change is increased to medium resulting in a significant (moderate) effect. The cumulative magnitude of change in Scenario 2 is now assessed as medium for Viewpoints 1 and 2 resulting in moderate significant cumulative effects, which also largely occur as a result in the change in status of the West of Orkney Wind Farm.

7.6 It is highlighted that these are not new or additional effects of the Project as such effects were assessed for the Original EIAR when it was assessed in the cumulative context of West of Orkney Wind Farm in Scenario 3. Such effects were considered acceptable in the consenting of the Project, which had a larger footprint (and horizontal field of view) than Variation 02.

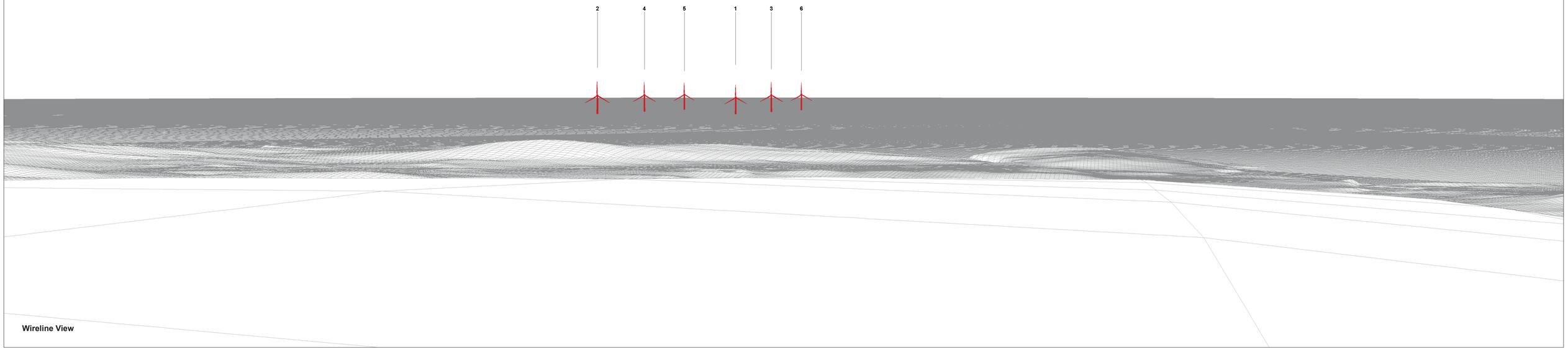
7.7 It is also worth noting that any subsequent proposals for onshore or offshore wind farms within the Study Area will have to consider the cumulative effect with the Project. This was the case for the West of Orkney Wind Farm, which included the original project design i.e. seven turbines of up to 300m to tip, over a larger geographical extent than proposed by this Variation 02.



Making Sustainability Happen

Appendix 4.2 – Supporting Wirelines

View flat at a comfortable arm's length



Wireline View

OS reference	**295429 E 961302 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**240.2 m AOD**	Principal distance	**912.5 mm**
Direction of view	**348°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**13,441 m**	Correct printed image size	**820 x 260 mm**

Variation 01

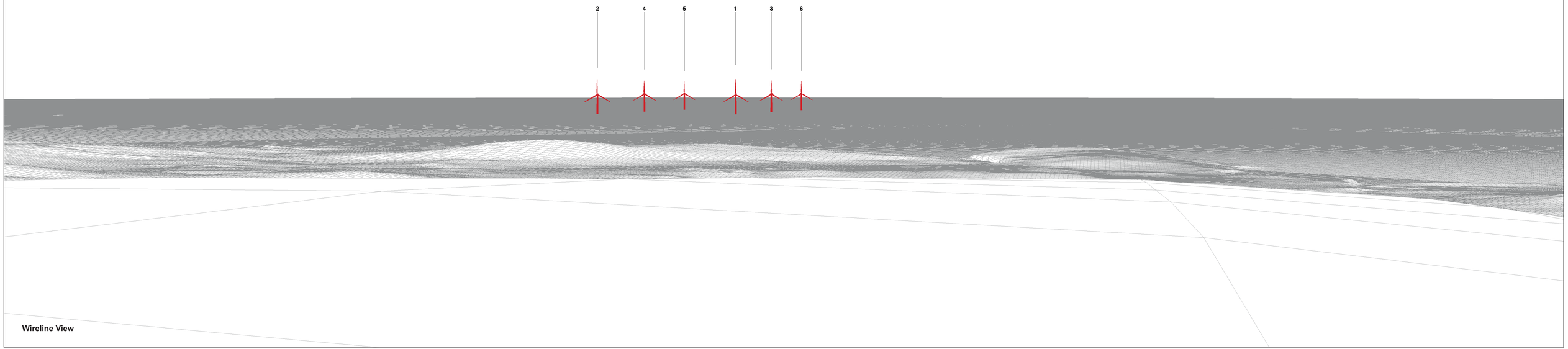
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-1a

Viewpoint 1: Beinn Ratha Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**295429 E 961302 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**240.2 m AOD**	Principal distance	**912.5 mm**
Direction of view	**348°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**13,441 m**	Correct printed image size	**820 x 260 mm**

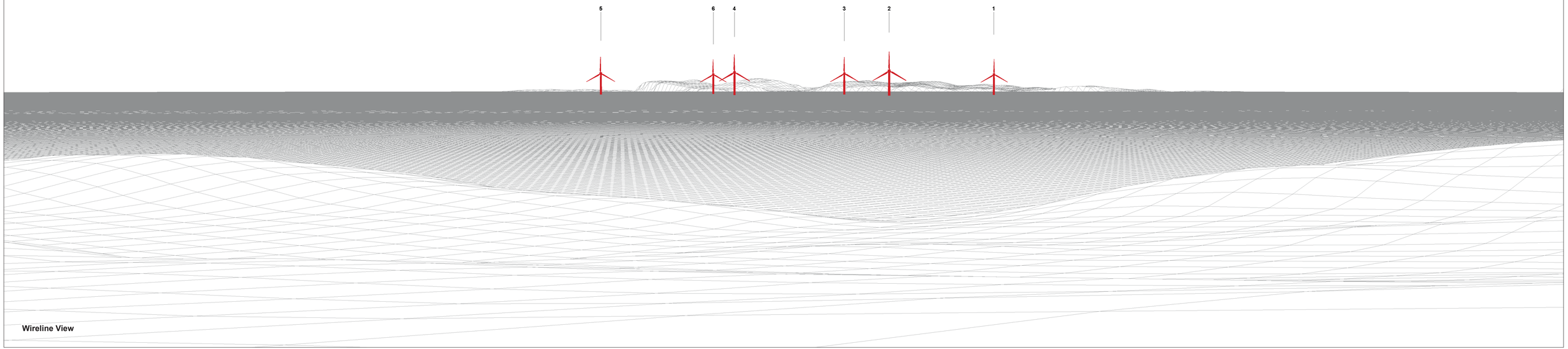
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-1b

Viewpoint 1: Beinn Ratha Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**282725 E 968587 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**60.14 m AOD**	Principal distance	**912.5 mm**
Direction of view	**51°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**10,066 m**	Correct printed image size	**820 x 260 mm**

Variation 01

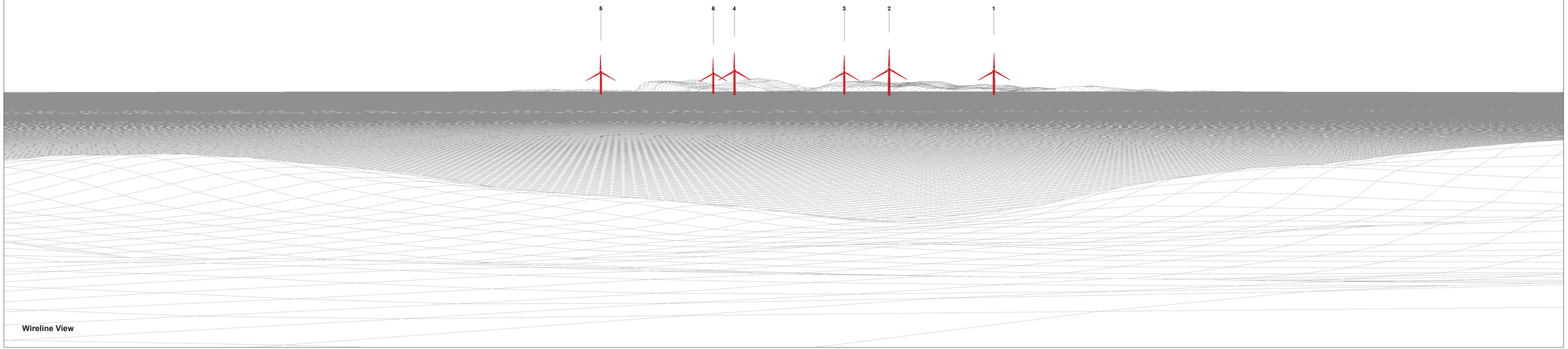
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-2a

Viewpoint 2: Strathy Point Car Park Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**282725 E 968587 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**60.14 m AOD**	Principal distance	**912.5 mm**
Direction of view	**51°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**10,066 m**	Correct printed image size	**820 x 260 mm**

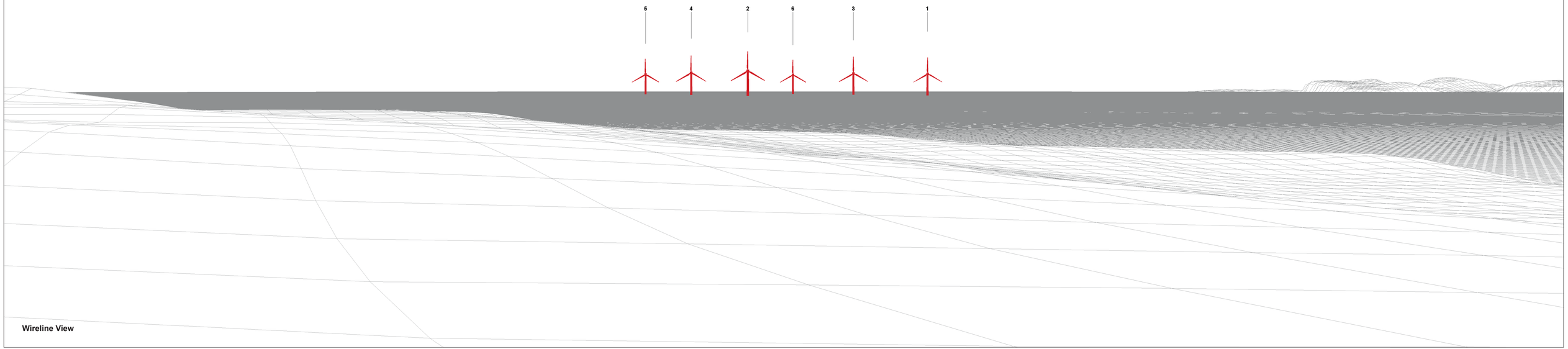
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-2b

Viewpoint 2: Strathy Point Car Park Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**287767 E 964926 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**60.86 m AOD**	Principal distance	**812.5 mm**
Direction of view	**20°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**9,975m**	Correct printed image size	**820 x 260 mm**

Variation 01

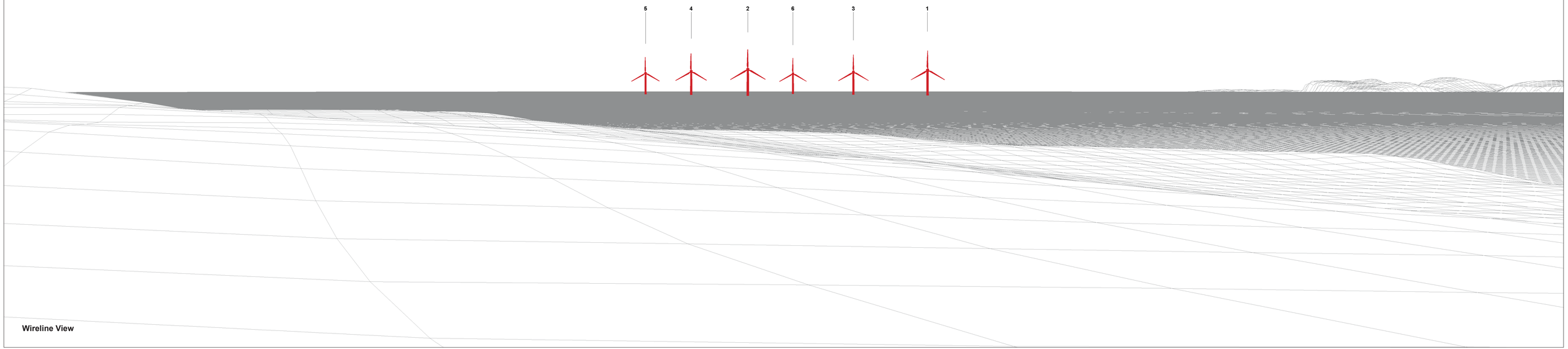
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-3a

Viewpoint 3: Portskerra/Melvich Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**287767 E 964926 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**60.86 m AOD**	Principal distance	**812.5 mm**
Direction of view	**20°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**9,975m**	Correct printed image size	**820 x 260 mm**

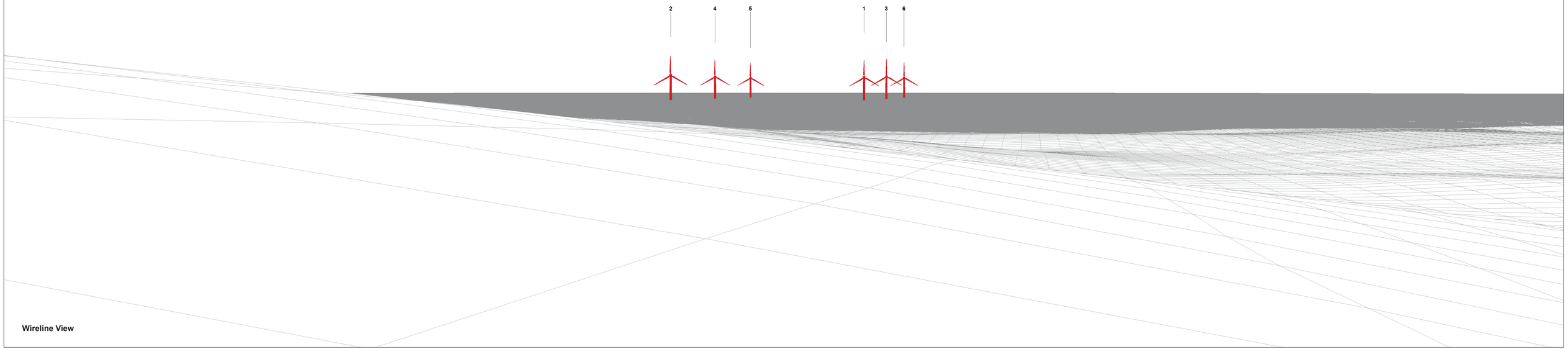
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-3b

Viewpoint 3: Portskerra/Melvich Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**293264 E 964541 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**88.72 m AOD**	Principal distance	**912.5 mm**
Direction of view	**351°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**9,870 m**	Correct printed image size	**820 x 260 mm**

Variation 01

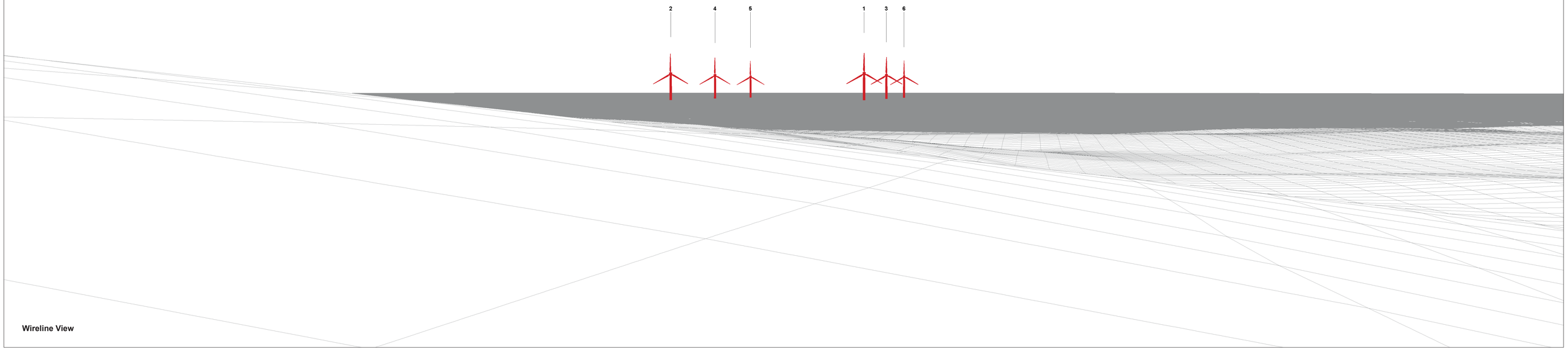
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-4a

Viewpoint 4: Drum Holliston Car Park Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**293264 E 964541 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**88.72 m AOD**	Principal distance	**912.5 mm**
Direction of view	**351°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**9,870 m**	Correct printed image size	**820 x 260 mm**

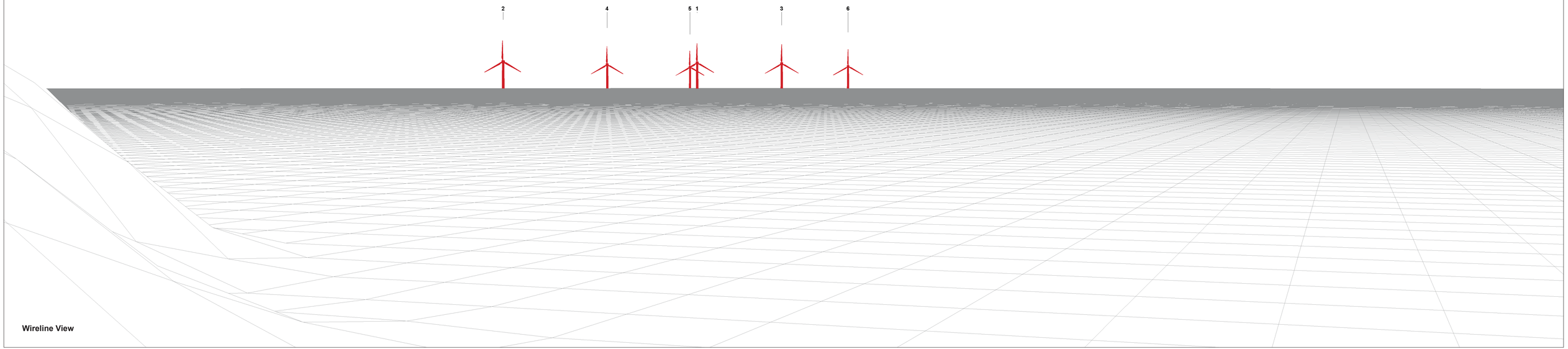
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-4b

Viewpoint 4: Drum Holliston Car Park Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**295694 E 966269 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**12.89 m AOD**	Principal distance	**812.5 mm**
Direction of view	**340°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**8,799 m**	Correct printed image size	**820 x 260 mm**

Variation 01

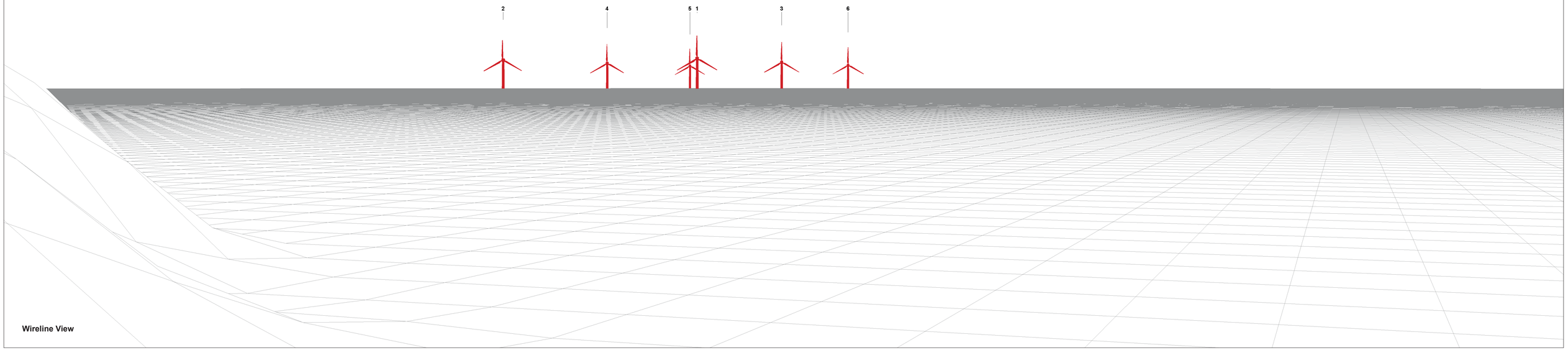
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-5a

Viewpoint 5: Sandside Head Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**295694 E 966269 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**12.89 m AOD**	Principal distance	**812.5 mm**
Direction of view	**340°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**8,799 m**	Correct printed image size	**820 x 260 mm**

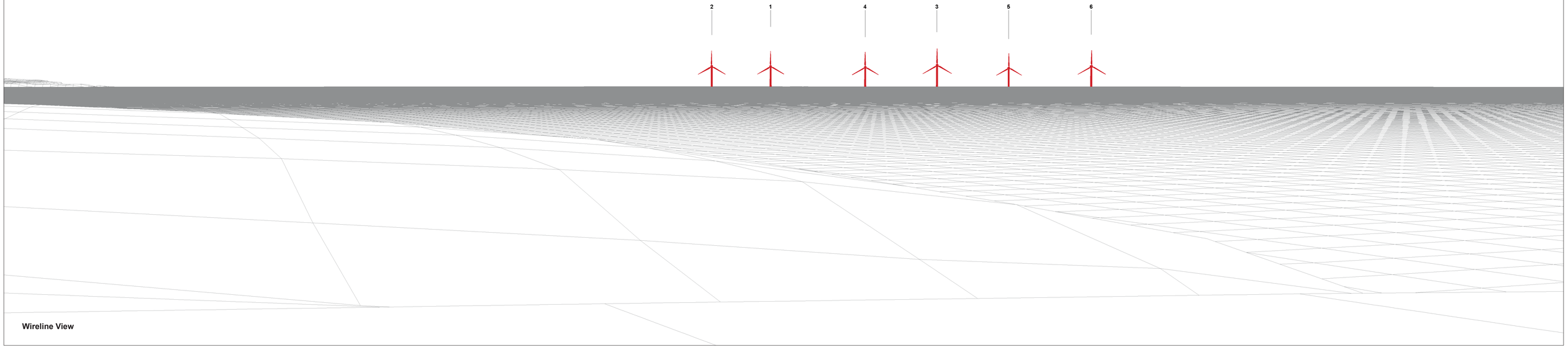
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-5b

Viewpoint 5: Sandside Head Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**302487 E 970105 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**15.26 m AOD**	Principal distance	**812.5 mm**
Direction of view	**293°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**11,106 m**	Correct printed image size	**820 x 260 mm**

Variation 01

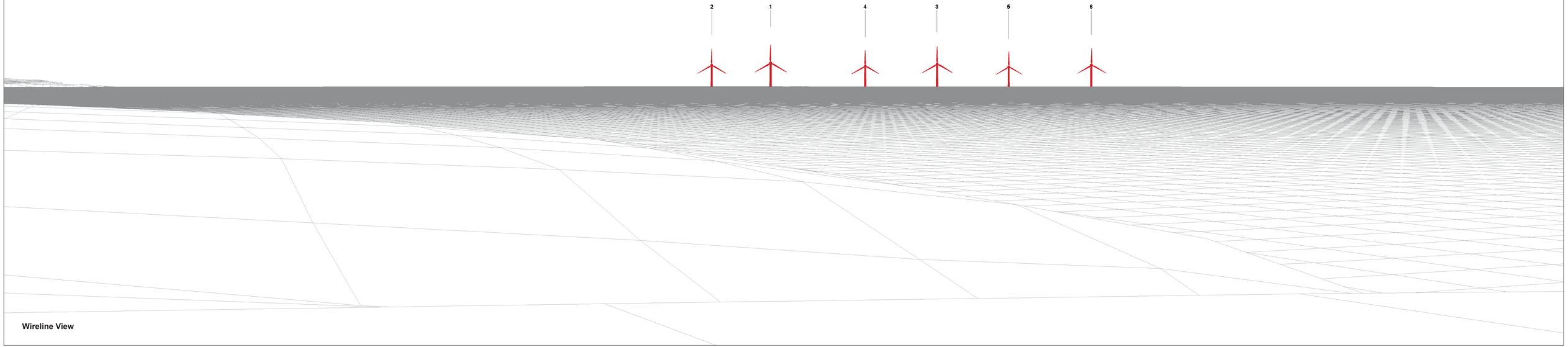
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-6a

Viewpoint 6: St Mary's Chapel, Forss Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**302487 E 970105 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**15.26 m AOD**	Principal distance	**812.5 mm**
Direction of view	**293°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**11,106 m**	Correct printed image size	**820 x 260 mm**

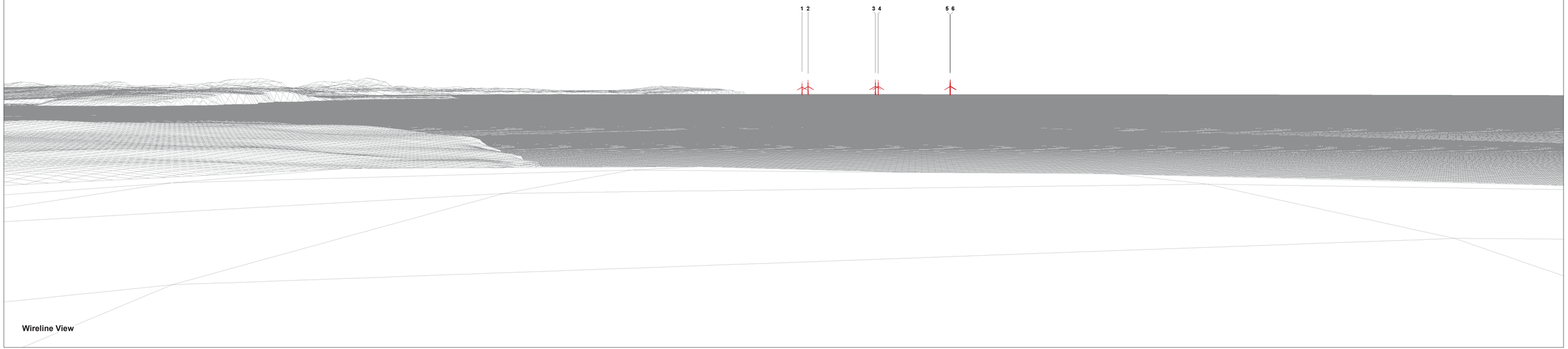
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-6b

Viewpoint 6: St Mary's Chapel, Forss Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**320532 E 976496 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**125.62 m AOD**	Principal distance	**812.5 mm**
Direction of view	**265°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**28,271 m**	Correct printed image size	**820 x 260 mm**

Variation 01

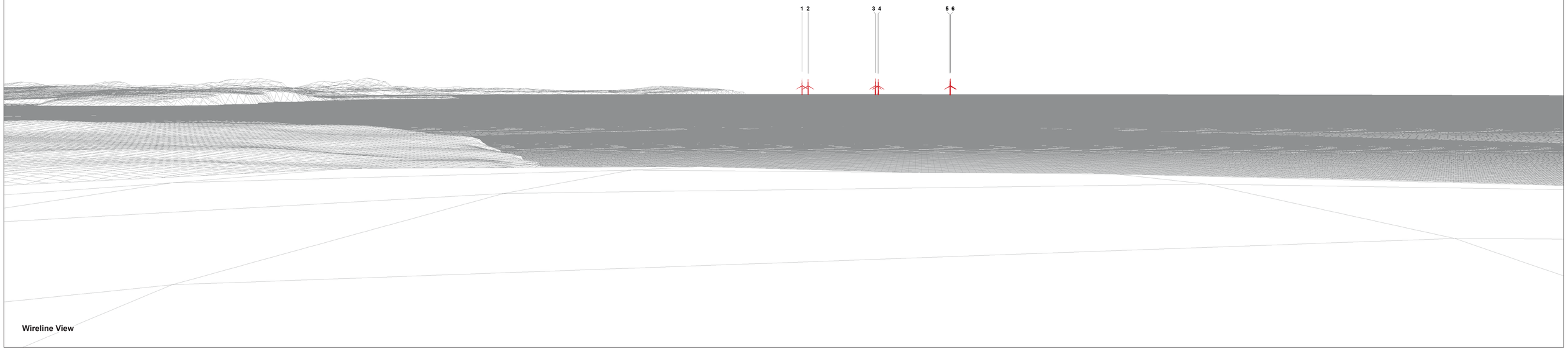
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-7a

Viewpoint 7: Dunnet Head Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**320532 E 976496 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**125.62 m AOD**	Principal distance	**912.5 mm**
Direction of view	**265°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**28,271 m**	Correct printed image size	**820 x 260 mm**

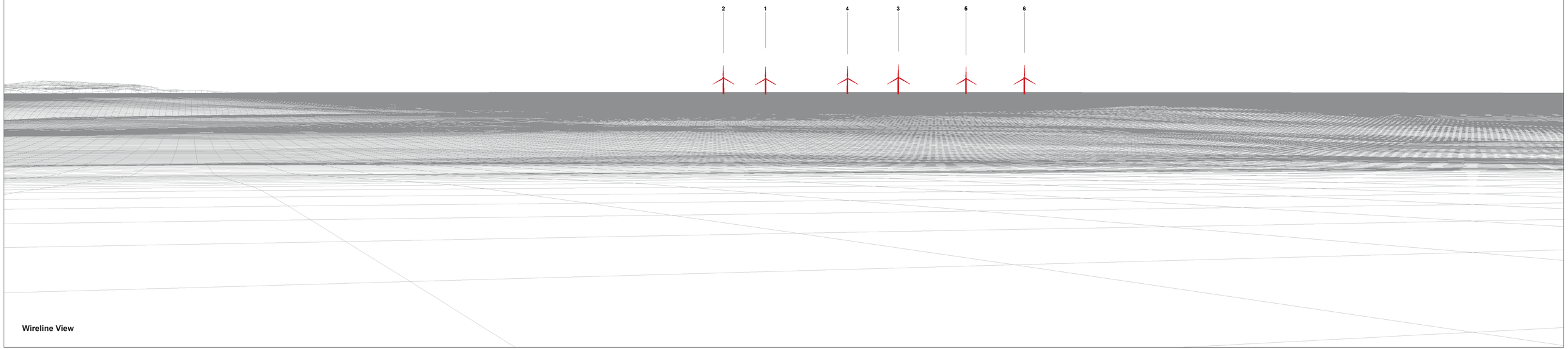
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-7b

Viewpoint 7: Dunnet Head Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**305643 E 969387 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**71.36 m AOD**	Principal distance	**812.5 mm**
Direction of view	**291°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**14,306 m**	Correct printed image size	**820 x 260 mm**

Variation 01

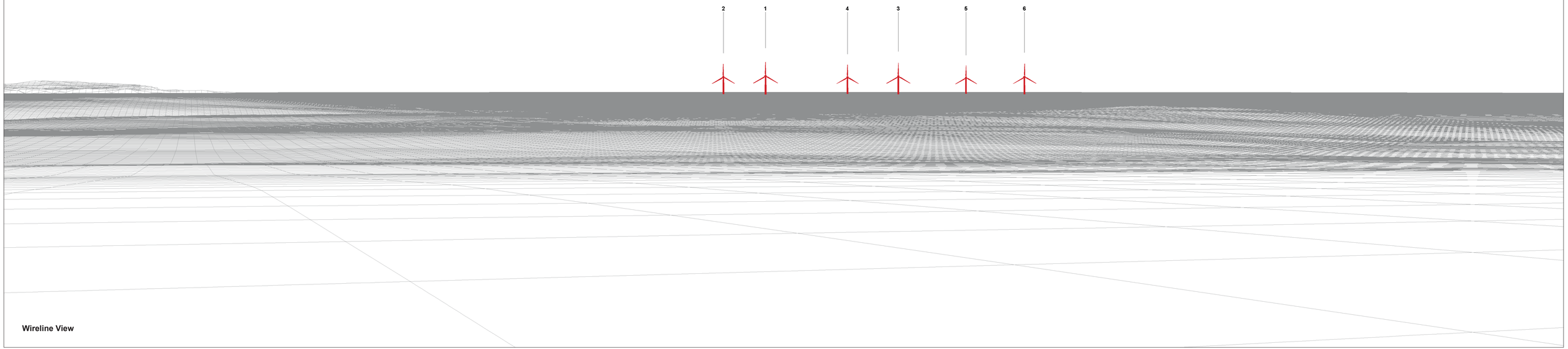
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-8a

Viewpoint 10: A836 East of Forss Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**305643 E 969387 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**71.36 m AOD**	Principal distance	**812.5 mm**
Direction of view	**291°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**14,306 m**	Correct printed image size	**820 x 260 mm**

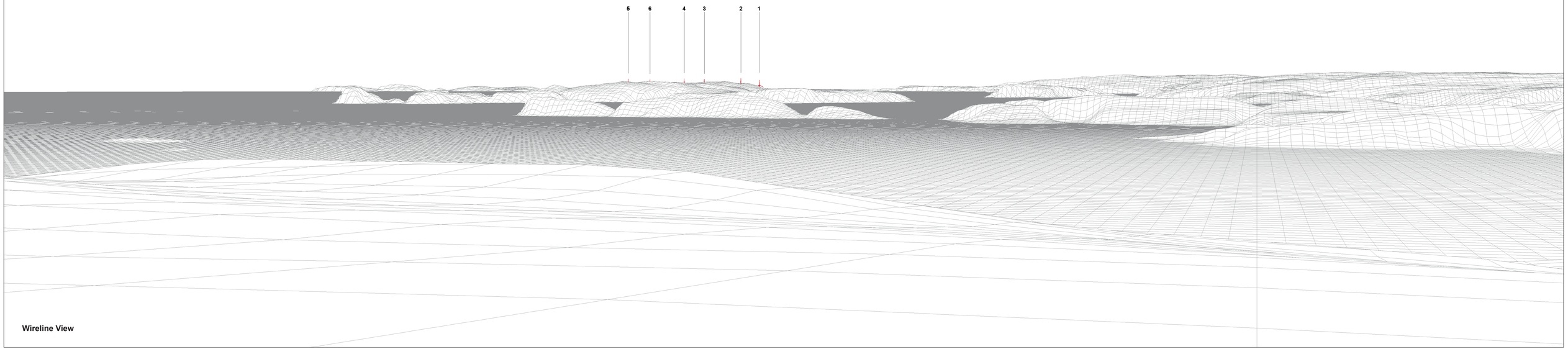
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-8b

Viewpoint 10: A836 East of Forss Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**258497 E 963460 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**53.5 m AOD**	Principal distance	**812.5 mm**
Direction of view	**73°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**34,250 m**	Correct printed image size	**820 x 260 mm**

Variation 01

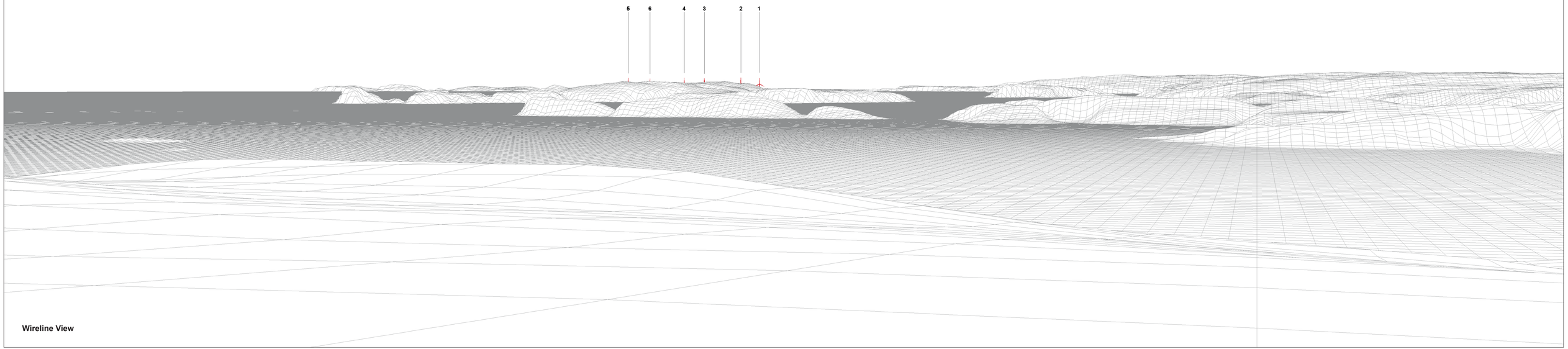
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-9a

Viewpoint 13: A Mhoine Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**258497 E 963460 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**53.5 m AOD**	Principal distance	**812.5 mm**
Direction of view	**73°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**34,250 m**	Correct printed image size	**820 x 260 mm**

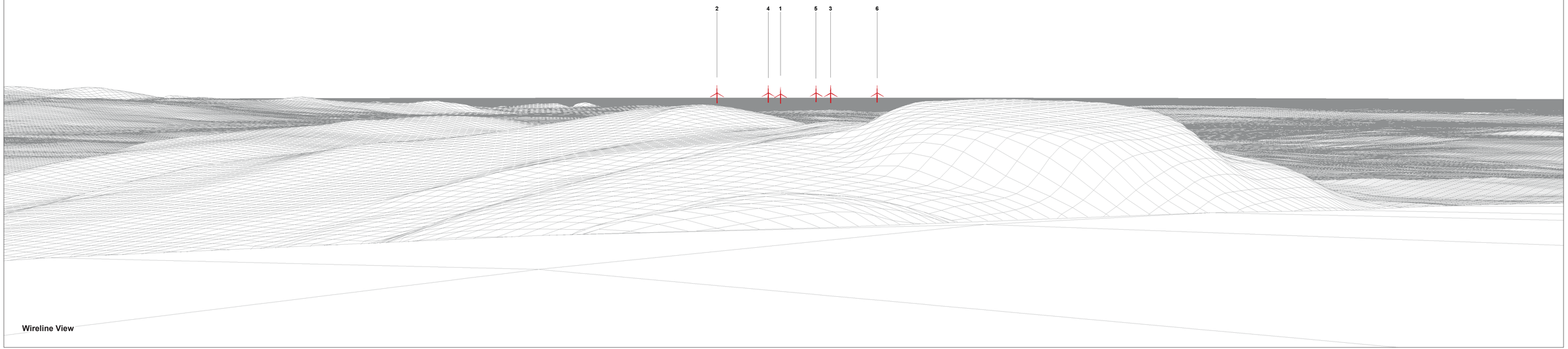
Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-9b

Viewpoint 13: A Mhoine Wireline

View flat at a comfortable arm's length



Wireline View

OS reference	**306302 E 955068 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**243.45 m AOD**	Principal distance	**812.5 mm**
Direction of view	**324°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**23,878 m**	Correct printed image size	**820 x 260 mm**

Variation 01

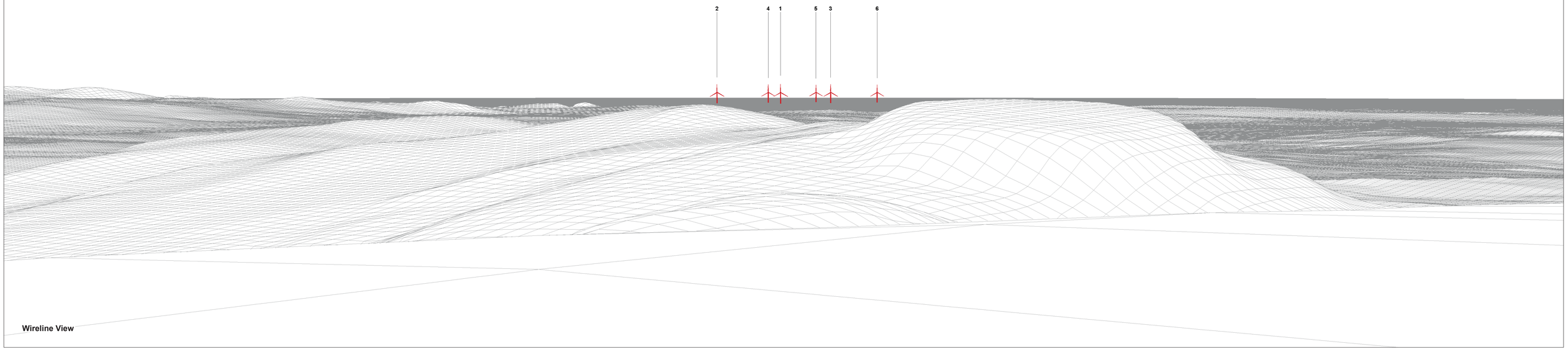
T1: 145m hub height, 255m tip height, 220m rotor

T2-6: 160m hub height, 285m tip height, 250m rotor

Figure S36C-10a

Viewpoint 14: Ben Dorrery Wireline

View flat at a comfortable arm's length



Wireline View

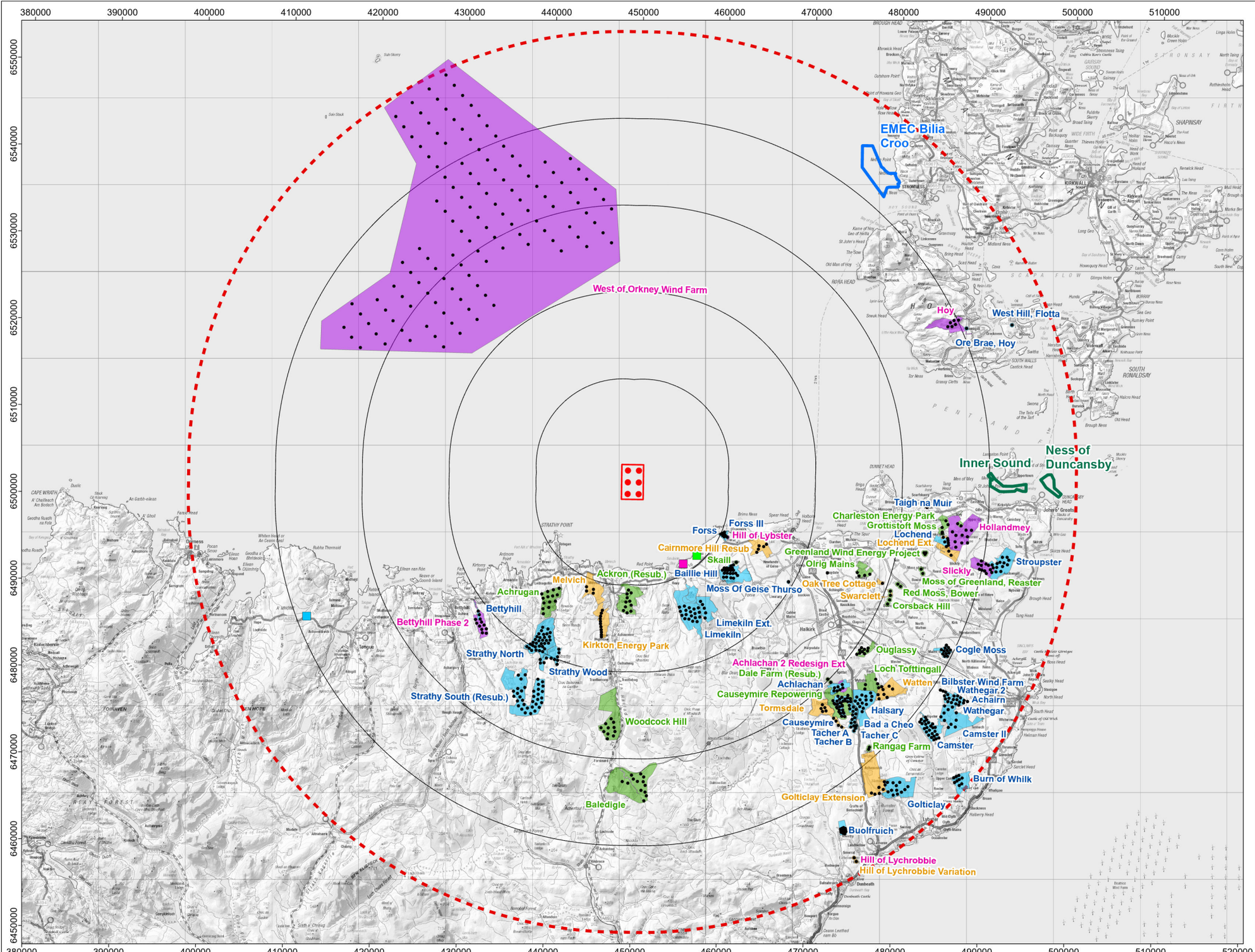
OS reference	**306302 E 955068 N**	Horizontal field of view	**53.5° (planar projection)**
Elevation	**243.45 m AOD**	Principal distance	**912.5 mm**
Direction of view	**324°**	Paper size	**841 x 297 mm (half A1)**
Nearest turbine	**23,878 m**	Correct printed image size	**820 x 260 mm**

Variation 02

T1-6: 170m hub height, 300m tip height, 260m rotor

Figure S36C-10b

Viewpoint 14: Ben Dorrery Wireline


West of Orkney Wind Farm
EMEC Billia Croo
Hoy
West Hill, Flotta
Ore Brae, Hoy
Inner Sound
Ness of Duncansby
Taigh na Muir
Charleston Energy Park
Grottistoft Moss
Hollandmey
Lochend
Lochend Ext.
Forss
Forss III
Hill of Lybster
Cairnmore Hill Resub
Skaill
Greenland Wind Energy Project
Olrig Mains
Stroupster
Slickly
Baillie Hill
Ackron (Resub.)
Melvich
Oak Tree Cottage
Swarclett
Moss of Greenland, Reaster
Red Moss, Bower
Moss Of Geise Thurso
Achrugan
Bettyhill
Corsback Hill
Bettyhill Phase 2
Limekiln Ext.
Limekiln
Kirkton Energy Park
Ouglassy
Cogle Moss
Strathy North
Strathy Wood
Achlachan 2 Redesign Ext
Dale Farm (Resub.)
Loch Tofttingall
Achlachan
Watten
Bilbster Wind Farm
Wathegar 2
Causeymire Repowering
Achairn
Strathy South (Resub.)
Tormsdale
Halsary
Wathegar
Woodcock Hill
Causeymire
Tacher A
Tacher B
Bad a Cheo
Tacher C
Camster II
Rangag Farm
Camster
Burn of Whilk
Golticlay Extension
Golticlay
Baledigle
Buolfruich
Hill of Lychrobbie
Hill of Lychrobbie Variation
Legend
Turbines
Offshore Array Area
10km Radii
50km Study Area
Dounreay Substation
Dounreay and Vulcan NRTE Decommissioning
Space Hub Sutherland
Cumulative Wind Turbine
Cumulative Development Status
Operational/Under Construction
Consented
Appeal/Application
Scoping
Tidal Farm
Wave Farm
SOURCE:
© Crown copyright [and database rights] (2026) AC0000808122 OS OpenData
GEBCO (2025) Contains public sector information licensed under the Open Government Licence v3.0.
Contains Crown Estate Scotland information licensed under the Open Government Licence v3.0.
SLR
0 3.5 7 nm
0 5 10 km
N
PENTLAND FLOATING OFFSHORE WIND FARM
DATE: 13/01/2026
SCALE @ A3: 1:500,000
DRAWN: RH
Figure S36C-11
CHECK: LT
CRS: British National Grid
APPROV:

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	295429 E 961312 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	241.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	348°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	13.43 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	15.04.2021 13:45

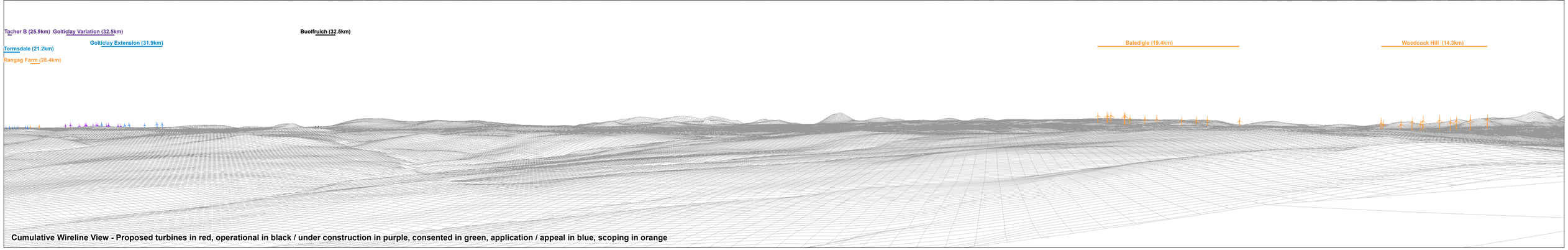
Figure S36C-12a
Viewpoint 1: Beinn Ratha
Pentland Firth Offshore Variation

OS reference:	295429 E 961312 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	241.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	78°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	13.43 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	15.04.2021 13:45

Figure S36C-12b

Viewpoint 1: Beinn Ratha

Pentland Firth Offshore Variation



OS reference:	295429 E 961312 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	241.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	168°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	13.43 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	15.04.2021 13:45

Figure S36C-12c

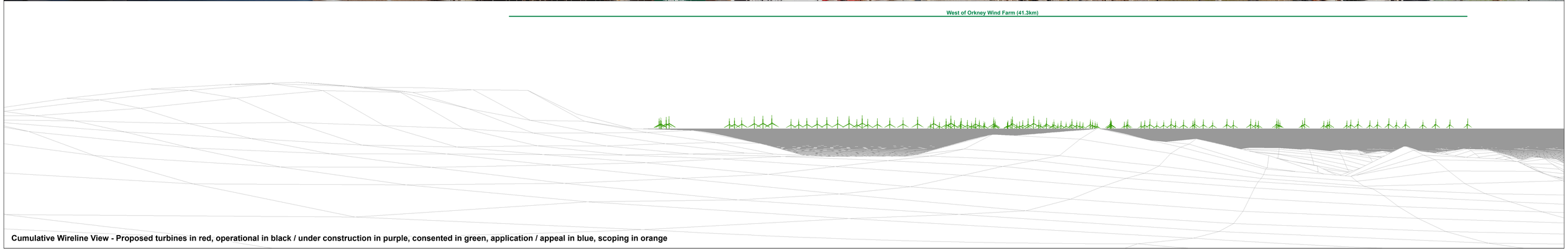
Viewpoint 1: Beinn Ratha

Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	295429 E 961312 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	241.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	258°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	13.43 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	15.04.2021 13:45

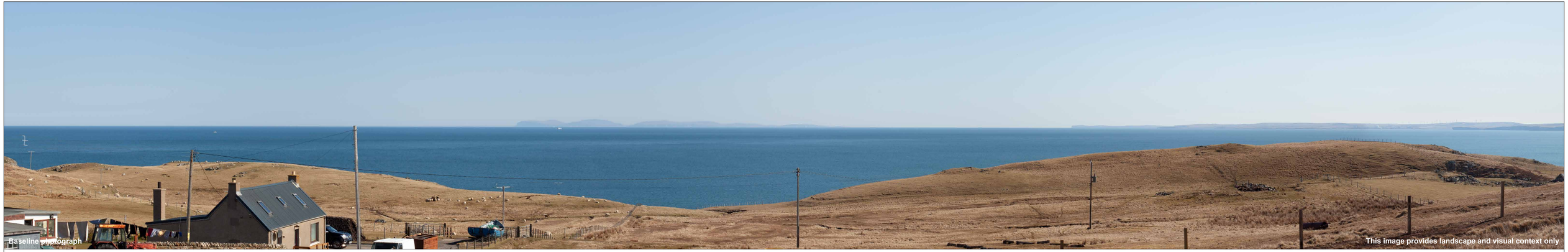
Figure S36C-12d
Viewpoint 1: Beinn Ratha
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	282725 E 968587 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	62.3 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	331°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	10.07 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	16.04.2021 09:55

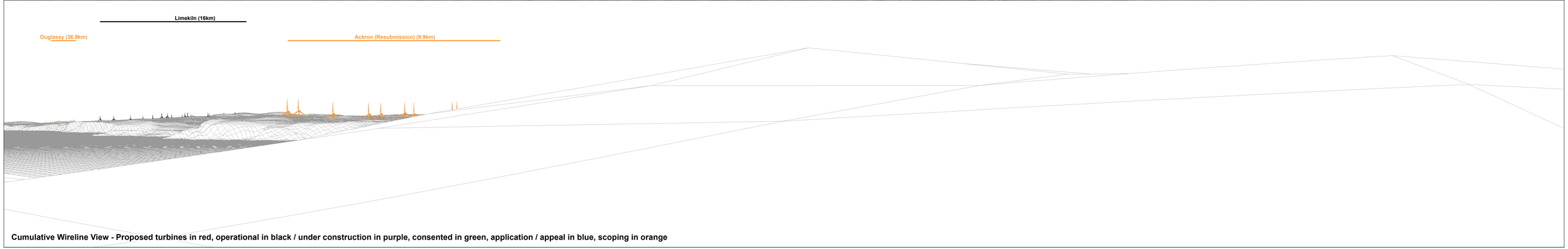
Figure S36C-13a
Viewpoint 2: Strathy Point Car Park
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	282725 E 968587 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	62.3 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	61°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	10.07 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	16.04.2021 09:55

Figure S36C-13b
Viewpoint 2: Strathy Point Car Park
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

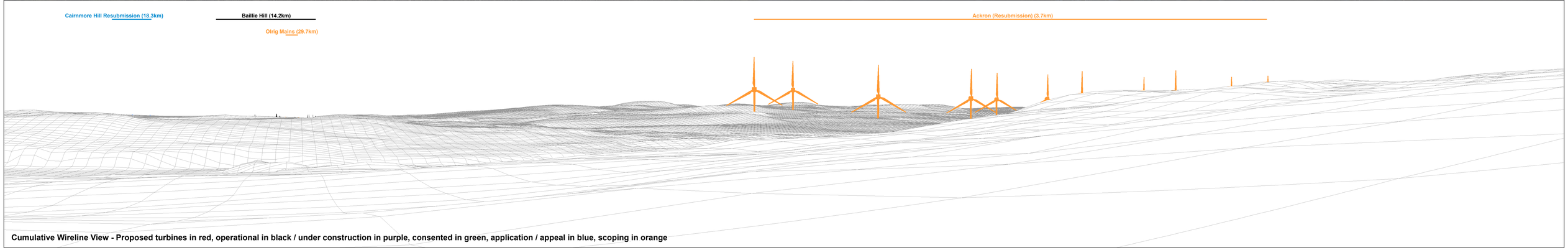
OS reference:	282725 E 968587 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	62.3 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	151°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	10.07 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	16.04.2021 09:55

Figure S36C-13c
Viewpoint 2: Strathy Point Car Park
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	287767 E 964926 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	62.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	28°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	9.98 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	10.11.2021 12:05

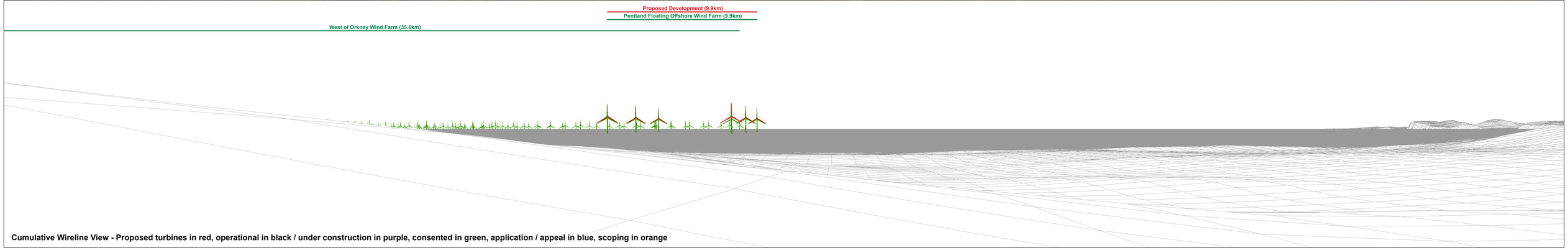
Figure S36C-14a
Viewpoint 3: Portskerra/Melvich
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	287767 E 964926 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	62.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	118°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	9.98 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	10.11.2021 12:05

Figure S36C-14b
Viewpoint 3: Portskerra/Melvich
Pentland Firth Offshore Variation



OS reference:	293264 E 964541 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	90.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	357°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	9.87 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	10.11.2021 12:35

Figure S36C-15a

Viewpoint 4: Drum Holliston Car Park

Pentland Firth Offshore Variation

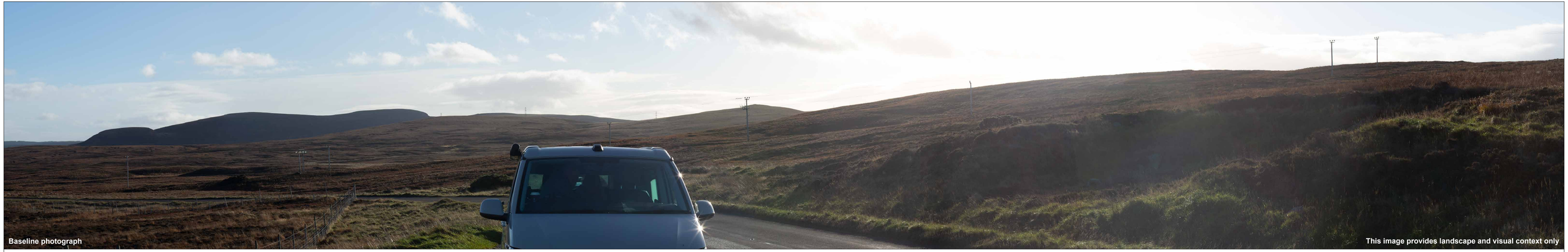
Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

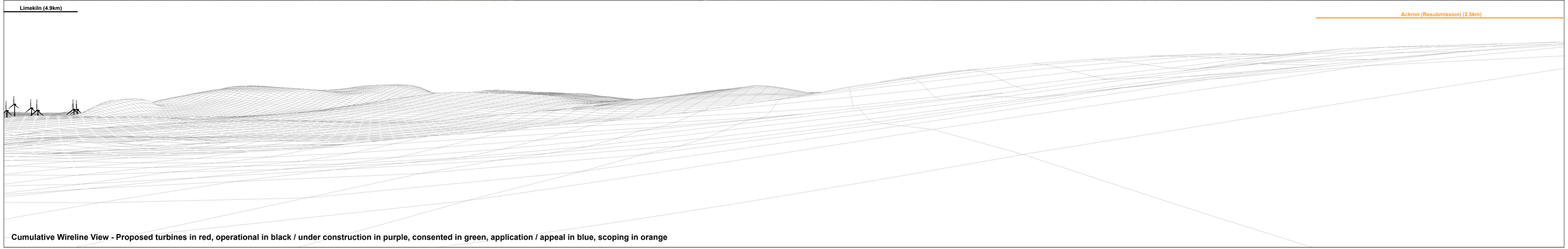
OS reference:	293264 E 964541 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	90.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	87°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	9.87 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	10.11.2021 12:35

Figure S36C-15b

Viewpoint 4: Drum Holliston Car Park

Pentland Firth Offshore Variation





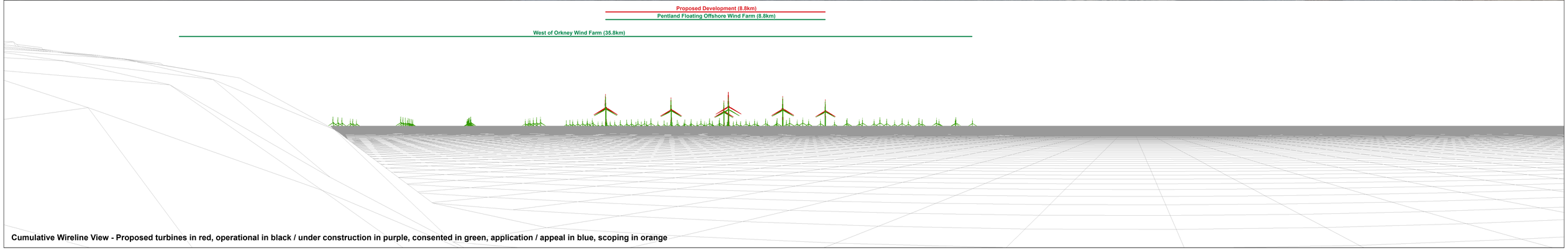
Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	293264 E 964541 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	90.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	177°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	9.87 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	10.11.2021 12:35

Figure S36C-15c

Viewpoint 4: Drum Holliston Car Park

Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

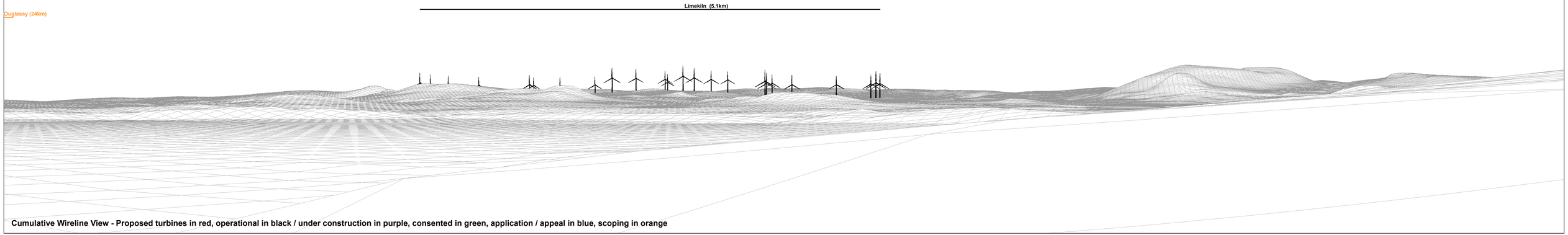
OS reference:	295694 E 966269 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	14.5 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	340°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	8.80 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	05.03.2022 15:45

Figure S36C-16a
Viewpoint 5: Sandside Head
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	295694 E 966269 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	14.5 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	70°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	8.80 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	05.03.2022 15:45

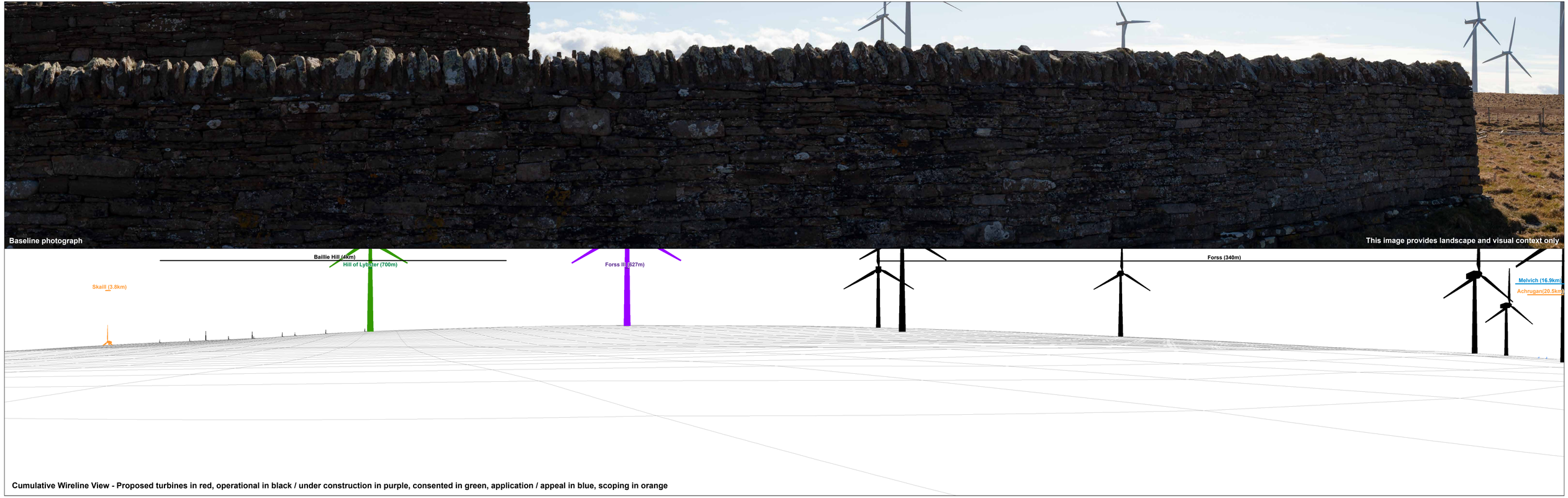
Figure S36C-16b
Viewpoint 5: Sandside Head
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	295694 E 966269 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	14.5 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	160°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	8.80 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	05.03.2022 15:45

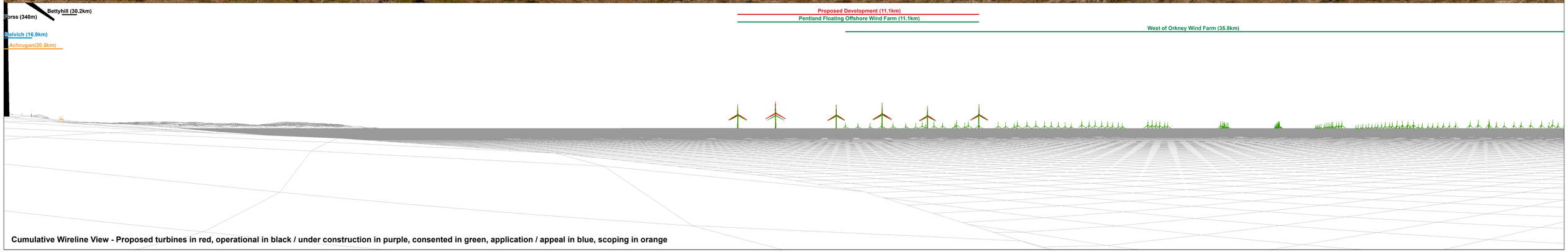
Figure S36C-16c
Viewpoint 5: Sandside Head
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	302487 E 970105 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	16.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	203°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	11.11 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	13.04.2021 14:25

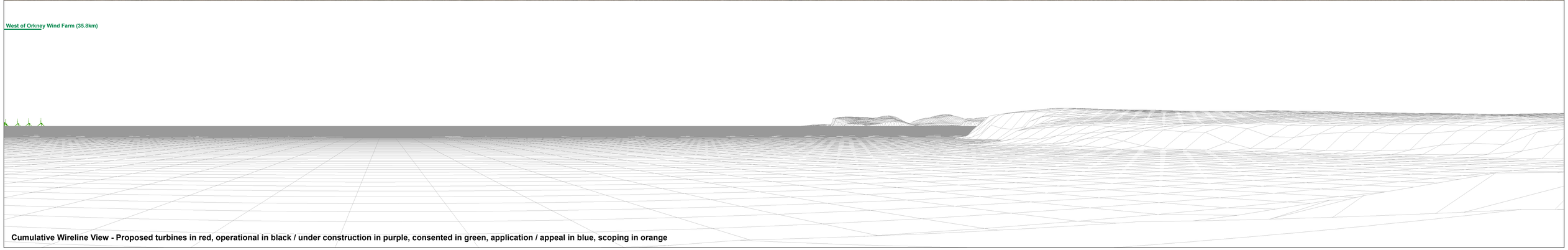
Figure S36C-17a
Viewpoint 6: St Mary's Chapel, Forss
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	302487 E 970105 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	16.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	293°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	11.11 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	13.04.2021 14:25

Figure S36C-17b
Viewpoint 6: St Mary's Chapel, Forss
Pentland Firth Offshore Variation



OS reference:	302487 E 970105 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	16.7 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	23°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	11.11 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	13.04.2021 14:25

Figure S36C-17c

Viewpoint 6: St Mary's Chapel, Forss

Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

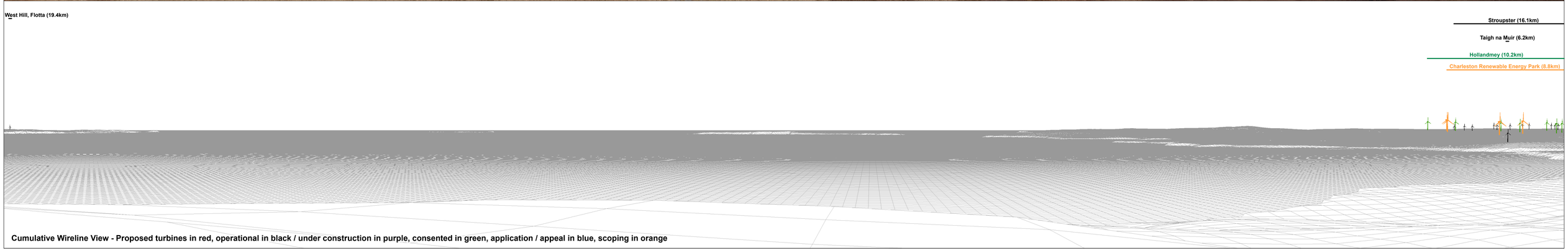
OS reference:	320532 E 976496 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	127.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	265°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	28.27 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 14:55

Figure S36C-18a
Viewpoint 7: Dunnet Head
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	320532 E 976496 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	127.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	355°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	28.27 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 14:55

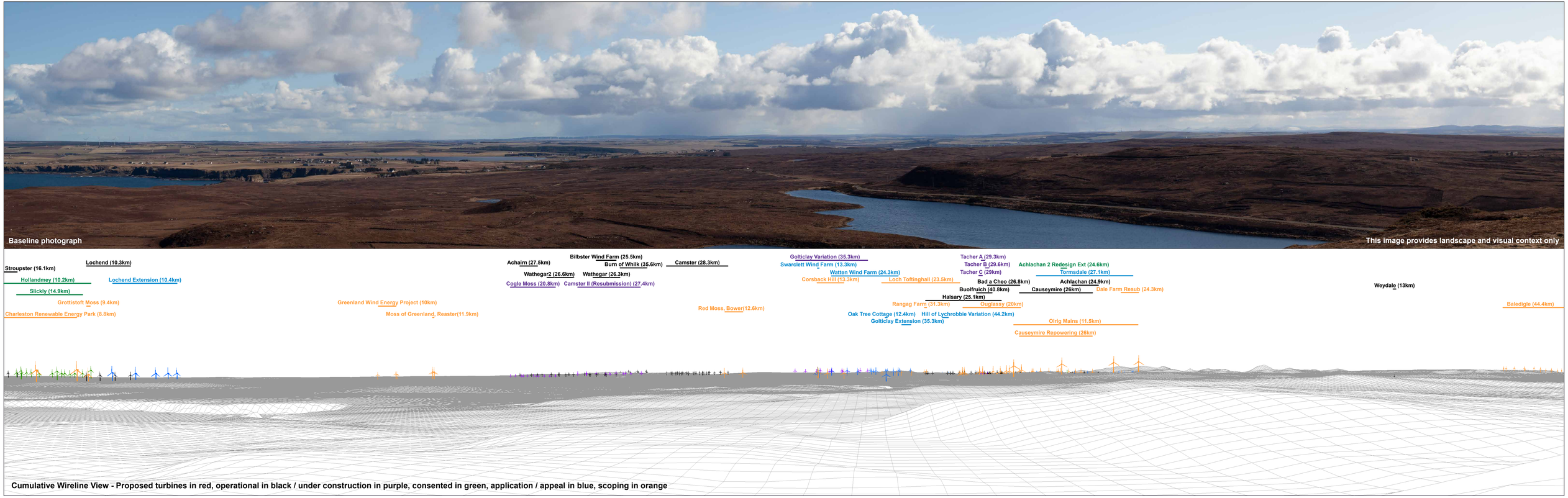
Figure S36C-18b
Viewpoint 7: Dunnet Head
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	320532 E 976496 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	127.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	85°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	28.27 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 14:55

Figure S36C-18c
Viewpoint 7: Dunnet Head
Pentland Firth Offshore Variation



OS reference:	320532 E 976496 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	127.4 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	175°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	28.27 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 14:55

Figure S36C-18d

Viewpoint 7: Dunnet Head

Pentland Firth Offshore Variation

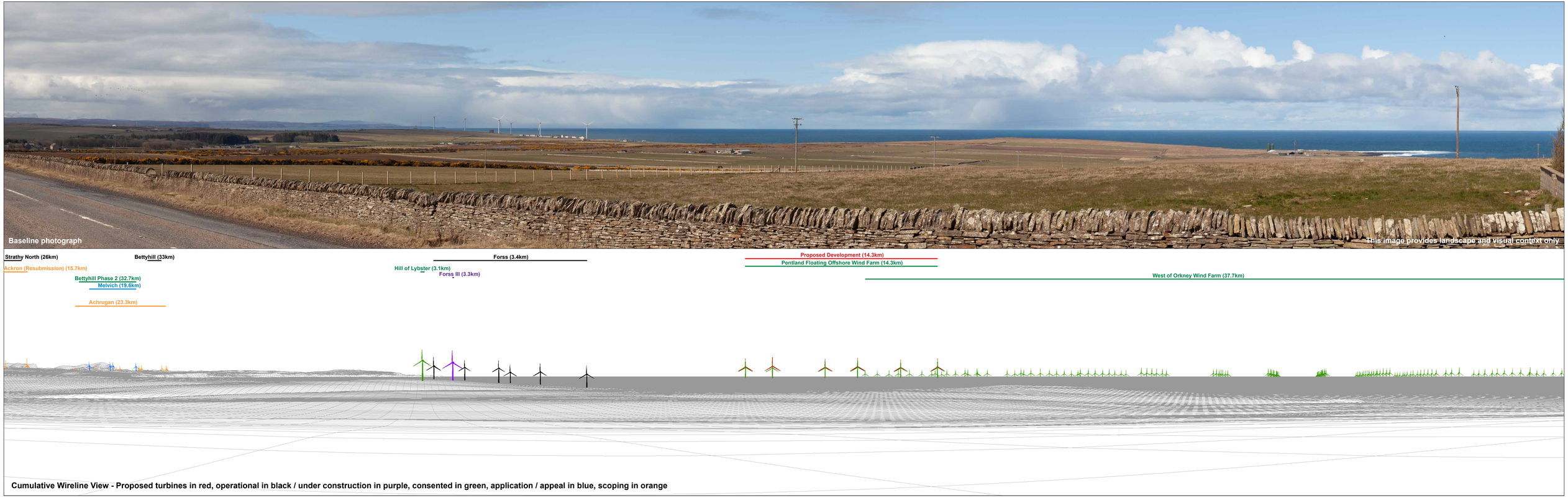
Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	305643 E 969387 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 6D Mark II
Eye level:	72.6 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	201°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	14.31 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 11:05

Figure S36C-19a

Viewpoint 10: A836 East of Forss

Pentland Firth Offshore Variation



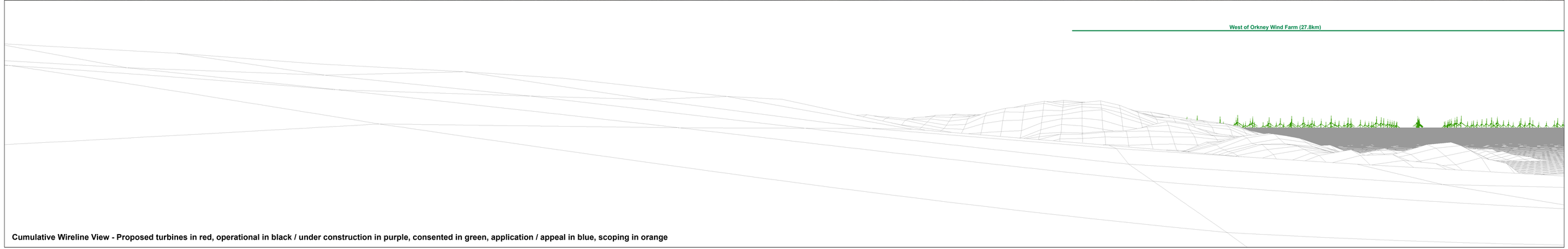
OS reference:	305643 E 969387 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 6D Mark II
Eye level:	72.6 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	291°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	14.31 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 11:05

Figure S36C-19b
Viewpoint 10: A836 East of Forss
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	305643 E 969387 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 6D Mark II
Eye level:	72.6 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	21°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	14.31 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	12.04.2021 11:05

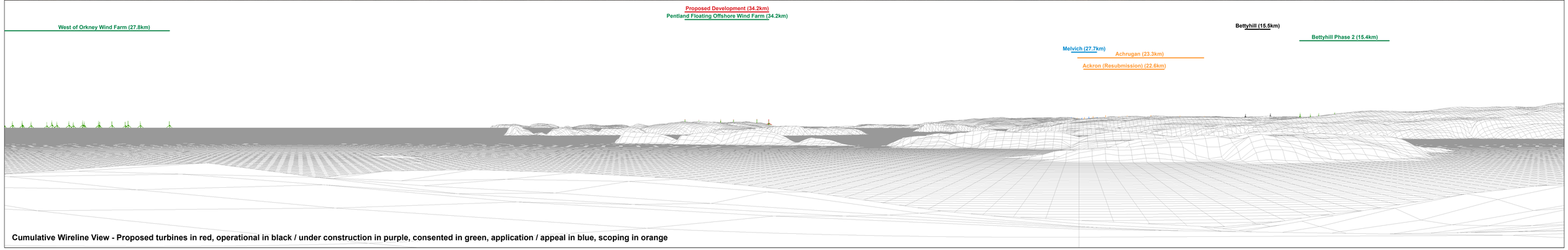
Figure S36C-19c
Viewpoint 10: A836 East of Forss
Pentland Firth Offshore Variation



Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

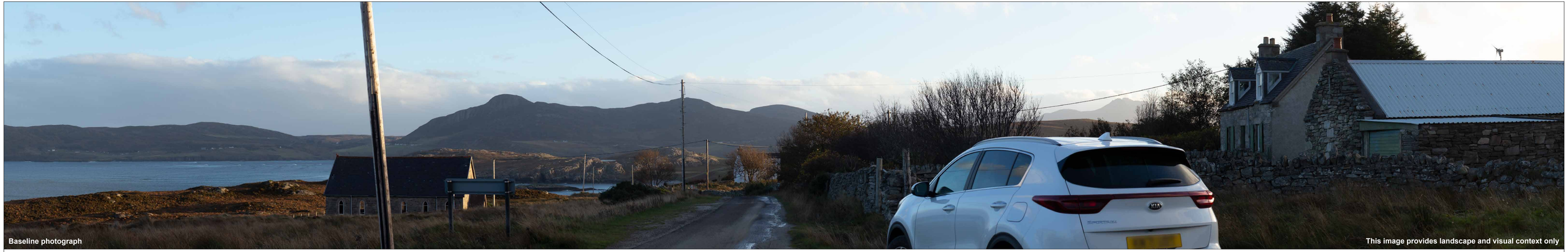
OS reference:	258497 E 963460 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	55.0 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	343°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	34.25 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 15:10

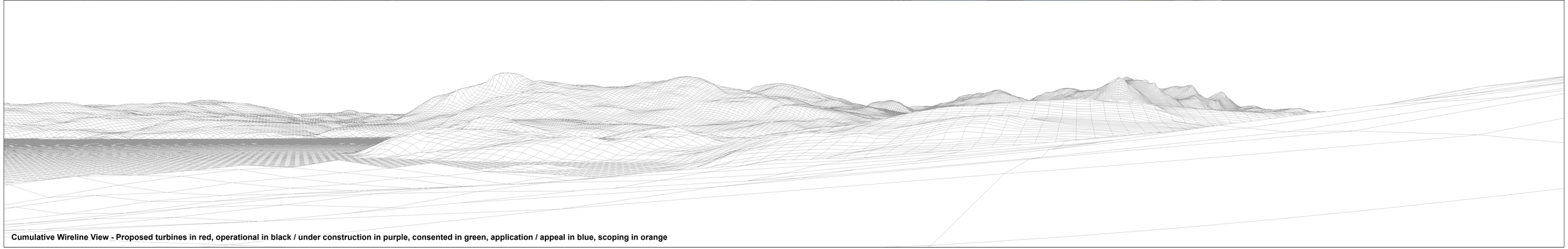
Figure S36C-20a
Viewpoint 13: A Mhoine
Pentland Firth Offshore Variation



OS reference:	258497 E 963460 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	55.0 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	73°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	34.25 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 15:10

Figure S36C-20b
Viewpoint 13: A Mhoine
Pentland Firth Offshore Variation





OS reference:	258497 E 963460 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	55.0 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	163°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	34.25 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 15:10

Figure S36C-20c
Viewpoint 13: A Mhoine
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	306302 E 955068 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	244.1 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	324°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	23.88 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 08:55

Figure S36C-21a
Viewpoint 14: Ben Dorrery
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

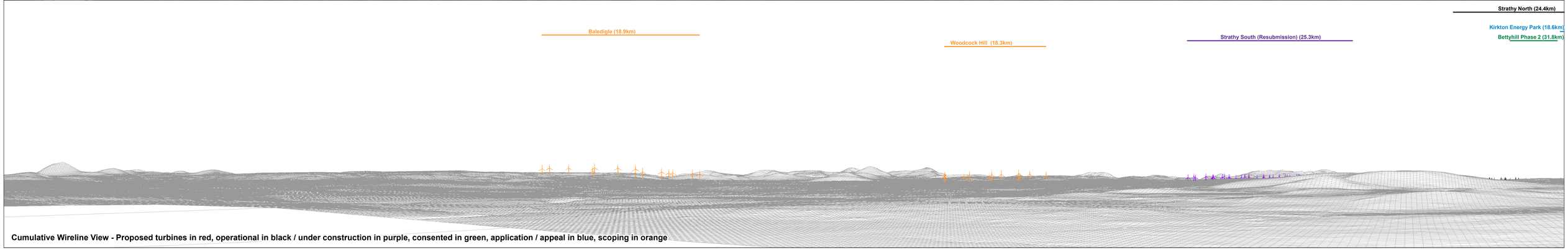
OS reference:	306302 E 955068 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	244.1 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	54°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	23.88 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 08:55

Figure S36C-21b
Viewpoint 14: Ben Dorrery
Pentland Firth Offshore Variation

Cumulative Wireline View - Proposed turbines in red, operational in black / under construction in purple, consented in green, application / appeal in blue, scoping in orange

OS reference:	306302 E 955068 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	244.1 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	144°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	23.88 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 08:55

Figure S36C-21c
Viewpoint 14: Ben Dorrery
Pentland Firth Offshore Variation



OS reference:	306302 E 955068 N	**Horizontal field of view:**	90° (cylindrical projection)	**Camera:**	Canon EOS 5D Mark II
Eye level:	244.1 mAOD	**Principal distance:**	522 mm	**Lens:**	Canon EF 50mm f/1.4
Direction of view:	234°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m
Nearest turbine:	23.88 km	**Correct printed image size:**	820 x 130 mm	**Date and time:**	09.11.2021 08:55

Figure S36C-21d
Viewpoint 14: Ben Dorrery
Pentland Firth Offshore Variation