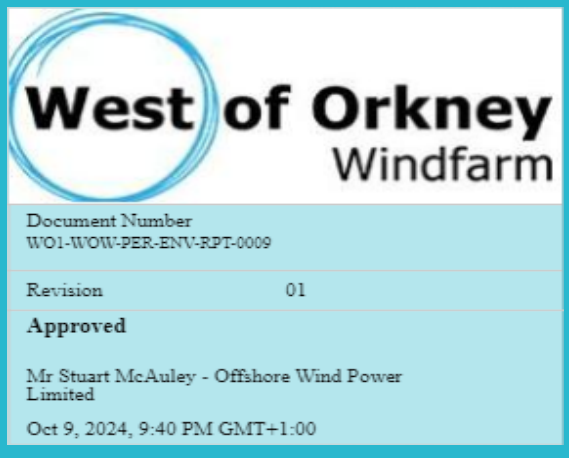
Offshore Wind Power Limited

West of Orkney Windfarm Offshore EIA Report Addendum

Shipping and Navigation Additional Information



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XODUS

West of Orkney Windfarm

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Executive Summary

Offshore Wind Power Limited (OWPL) ('the Applicant') submitted an application for consent of the offshore elements of the West of Orkney Windfarm ('the offshore Project') in September 2023, supported by an Offshore Environmental Impact Assessment (EIA) Report ('the Offshore Application').

Following the review of the Offshore Application and upon receipt of representations from consultees, Marine Directorate – Licensing Operations Team (MD-LOT) issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024. Both the Maritime Coastguard Agency (MCA) and the UK Chamber of Shipping (UKCoS) raised concerns around potential safety concerns associated with the proximity of the Option Agreement Area (OAA) to Sule Skerry to the northwest, as well as an IMO Routeing Area to be Avoided (ATBA) to the east of the OAA. Further consideration of risks and mitigations relating to potential navigational safety issues associated with the proximity of the OAA to these navigational features was requested by MD-LOT.

This document is an addendum to chapter 15: Shipping and navigation and provides the additional information in response to the Additional Information Requests and other relevant specific clarifications points from consultees. Stakeholder consultation, in the form of meetings and written correspondence, has been undertaken to inform the additional information provided within this document.

The addendum presents additional mitigation to address the concerns raised in relation to the proximity of the OAA to Sule Skerry and the IMO Routeing ATBA. Informed by a Safety Case, a minimum navigational corridor between Sule Skerry and the OAA ("Sule gap") and the IMO Routeing ATBA and the OAA ("ATBA gap") is presented. The Safety Case considers nearby navigational features and vessel traffic alongside relevant guidance to calculate the minimum navigational corridor width for the Sule and ATBA Gaps.

The Sule gap encompasses a 4.5 nautical mile (nm) (inclusive of a 1 nm buffer around Sule Skerry and Sule Stack). The Applicant has committed to avoiding placing any Wind Turbine Generators (WTGs), Offshore Substation Platforms (OSPs) or met-ocean measuring equipment forming part of the offshore Project within the Sule gap~~s~~. This has resulted in a section of the OAA being identified as a "Restricted Build Area". This will be enforced through a proposed condition on the Section 36 consent and/or Marine Licence.

The results of the Safety Case indicate no change is required to the ATBA gap. The outputs of the corridor calculations, the very low frequency of use, and the lack of a physical hazard bounding the eastern edge indicate the current width of 2.4 nm is acceptable.

The results of the Safety Case have been presented to MCA and UKCoS and the proposed consent condition wording agreed.

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1 INTRODUCTION

Offshore Wind Power Limited (OWPL) ('the Applicant') is proposing the development of the West of Orkney Windfarm ('the Project'), an Offshore Wind Farm (OWF), located at least 23 kilometres (km) from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney.

The Applicant submitted an application for consent under Section 36 of the Electricity Act 1989 and Marine Licences under Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to Scottish Ministers in September 2023 ('the Offshore Application') for the offshore components of the Project seaward of Mean High Water Springs (MHWS) ('the offshore Project'). The offshore Project will consist of Wind Turbine Generators (WTGs) and all infrastructure required to transmit the power generated by the WTGs to shore.

In accordance with relevant EIA Regulations[1], an Offshore Environmental Impact Assessment (EIA) Report was submitted to Marine Directorate – Licensing Operations Team (MD-LOT) as part of the Applicant's Offshore Application. Chapter 15: Shipping and navigation of the Offshore EIA Report provided the assessment of likely significant effects from the offshore Project on shipping and navigational receptors, both from the offshore Project alone and also cumulatively with other projects, plans and activities, and whole Project perspective.

Following the review of the Offshore Application, and upon receipt of representations from consultees, MD-LOT issued an Additional Information Request to the Applicant on 8th February 2024 and 8th April 2024, which requested further consideration and submission of further proposed mitigation to reduce risks relating to the proximity of the Option Agreement Area (OAA) to Sule Skerry and Sule Stack, and the IMO Routeing Area to be Avoided (ATBA).

This document is an addendum to chapter 15: Shipping and navigation of the Offshore EIA Report and provides the additional information in response to the Additional Information Request and other relevant specific clarifications points from consultees. This document has been produced by Anatec Ltd.

The relevant documents previously submitted as part of the Offshore EIA Report that should be read alongside this document are:

- Offshore EIA Report Volume 1 - Chapter 15: Shipping and navigation; and
- Offshore EIA Report Volume 2 - Supporting Study 14: Navigational risk assessment.

Stakeholder consultation was undertaken throughout the Offshore EIA in relation to shipping and navigation as outlined within section 15.3 of chapter 15: Shipping and navigation of the Offshore EIA Report. Consultation has continued following the submission of the Offshore Application and has been referenced within this document as relevant. Consultation will continue throughout the post-consent phase of the offshore Project.

[1] *The relevant EIA Regulations include the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Marine Works (Environmental Impact Assessment) Regulations 2007.*

2 STRUCTURE OF THIS DOCUMENT

This document has been structured as follows:

- Section 3 – summary of the Additional Information Request;
- Section 4 – additional information in response to the requests;
- Section 5 – summary and conclusions;
- Section 6 – references; and
- Section 7 – acronyms.

3 REQUEST FOR ADDITIONAL INFORMATION

MD-LOT requested that further proposed mitigation be submitted in line with the Maritime and Coastguard Agency (MCA) and the United Kingdom Chamber of Shipping (UKCoS) responses to the Offshore EIA Report. A summary of the key matters raised by MCA and UKCoS in relation to shipping and navigation are presented in Table 3-1, along with a response where suitable or cross references where further information has been provided within this addendum to chapter 15: Shipping and navigation of the Offshore EIA Report.

Table 3-1 MD-LOT, MCA and UKCoS request for additional information relevant to shipping and navigation

REQUEST	RESPONSE
Both the MCA and the UKCoS raised concerns regarding the proximity of the OAA to Sule Skerry. With regard to the north westerly boundary of the OAA in proximity to Sule Skerry, the UKCoS recommended that for safe navigational purposes, a sufficiently wide channel be introduced for navigation between Sule Skerry and the wind farm for commercial vessels to safely transit through. **The UKCoS also raised concerns that the easterly boundary of the OAA, specifically its proximity to the IMO Routeing ATBA creates a chokepoint and navigational risk hotspot. The UKCoS therefore strongly recommends that a viable channel be maintained for a vessel weather routeing in adverse conditions and as such calls for a greater area of sea-room to be maintained.** **The UKCoS also raised concerns in relation to the hazard log presented in Appendix B of the Offshore EIA Report, Supporting Study 14: Navigational Risk Assessment. UKCoS consider that the risk of "Displacement (adverse weather routing)" is higher than "Tolerable with mitigation". The UKCoS requested further details on the proposed mitigation measures to be developed post-consent, such as a Structures Exclusion Zone (SEZ).**	Chapter 15: Shipping and navigation of the Offshore EIA Report and Supporting Study 14: Navigational Risk Assessment considered the navigational safety of the sea space between Sule Skerry and the OAA and between the ATBA and the OAA. Section 4 of this Additional Information presents additional mitigation to address the concerns raised, in the form of minimum navigational corridor widths, to ensure that the sea space is safe to transit through (see section 4). The Applicant is committing that no WTG, offshore substation platform or met-ocean measuring equipment forming part of the offshore Project will be erected within Restricted Build Area (RBA) A (see section 4.4.2). This will be enforced through a proposed condition on the Section 36 consent and/or Marine Licence. The Applicant held teleconferences with the UKCoS (26th April 2024) and the MCA (30th April 2024) to discuss the proposed Safety Case and the proposed minimum navigation corridor widths.

4 ADDITIONAL INFORMATION

This section of the addendum to chapter 15: Shipping and Navigation of the Offshore EIA Report provides the Safety Case that has been produced to identify the minimum recommended navigable width required between the array and the Sule Skerry (hereafter the "Sule gap"), and the array and the ATBA (hereafter the "ATBA gap"). The minimum recommended navigable width forms additional mitigation to ensure that there will be no significant impacts on shipping and navigation receptors and that the concerns around the conclusions of chapter 15: Shipping and navigation of the Offshore EIA Report (see section 3) have been addressed. The Safety Case content is set out as follows:

- Section 4.1 Navigational Features: describes the local navigational features, in particular the Sule Skerry and the ATBA, noting the intention of the Safety Case is to assess the minimum distance from the structures placed within the OAA to these two features;
- Section 4.2 Vessel Traffic: assesses baseline vessel traffic and provides details of anticipated users of the Sule and ATBA gaps;
- Section 4.3 Corridor Guidance: summarises the relevant corridor guidance that has been considered within the Safety Case; and
- Section 4.4 Width Calculations: applies the corridor guidance in section 4.3 to the Sule and ATBA gaps.

4.1 Navigational features

From Admiralty Charts (United Kingdom Hydrographic Office (UKHO), 2023) and Admiralty Sailing Directions North Coast of Scotland Pilot (UKHO, 2022), navigational features within and in proximity to the offshore Project have been characterised.

The full baseline characterisation for navigational features is provided within section 15.4.4.1 of chapter 15: Shipping and navigation of the Offshore EIA Report. Of particular note are the Sule Skerry and Sule Stack outcrops, as well as the ATBA. Sule Skerry is denoted by a lighthouse and located approximately 2.4 Nautical Miles (nm) northwest of the OAA. Sule Stack is located approximately 3.6 nm to the west of the OAA and houses a virtual AIS aid to navigation. Water depths in the immediate vicinity of Sule Skerry and Sule Stack are considered to be unsafe for navigation, with a 20 metre (m) contour around Sule Skerry extending up to 1 nm northeast. The Sule Skerry and Stack outcrops are presented relative to the OAA in Figure 4-1.

The ATBA is located approximately 2.4 nm east of the OAA, as presented in Figure 4-1. According to the Admiralty Sailing Directions (UKHO, 2022) and a note on charts, "Ships of more than 5,000 Gross Tonnes (GT) carrying oil or hazardous cargoes in bulk should avoid this area." These measures are in place to minimise risk of hazardous spillage in the environmentally sensitive coastal area around Orkney. There are no further restrictions applied to vessels that may choose to transit through the ATBA.

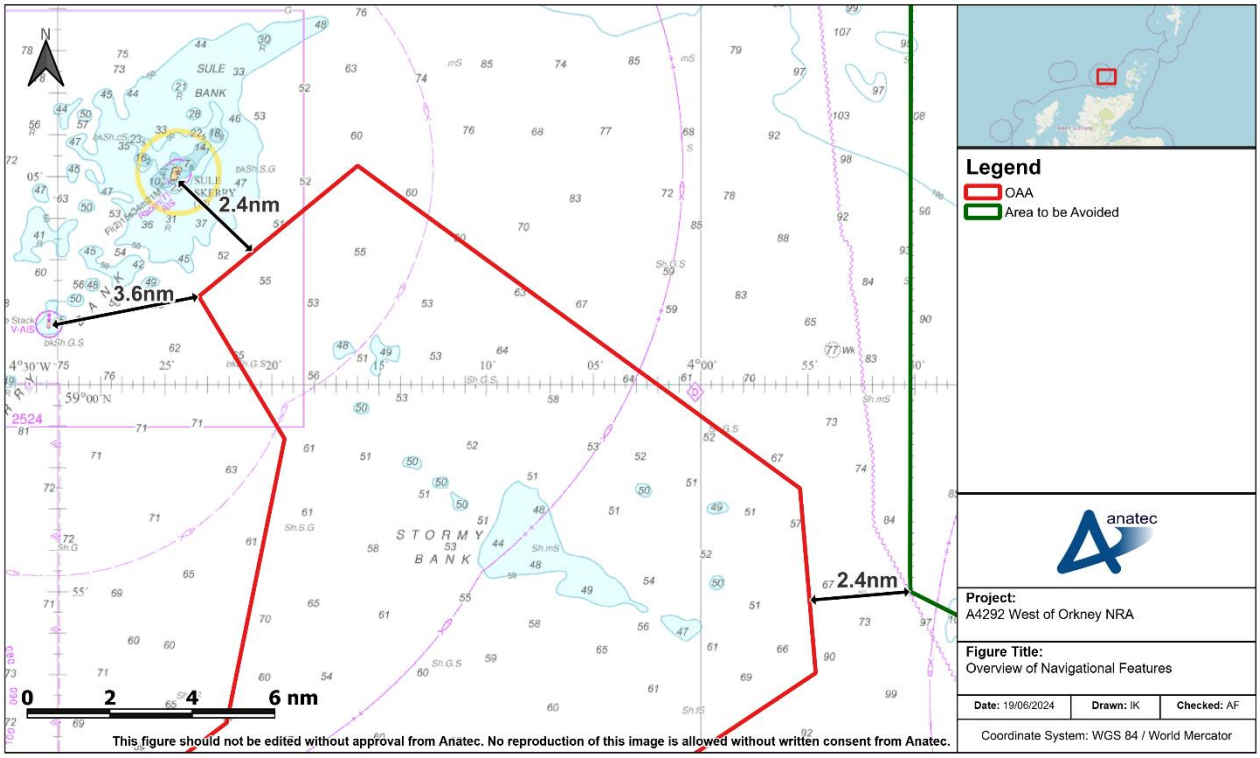

Figure 4-1 Overview of navigational features

4.2 Vessel traffic

The primary vessel traffic datasets considered are:

- Two 14-day seasonal periods of Automatic Identification System (AIS), Radar, and visual observation data gathered from dedicated vessel traffic surveys from August 2022 (summer) and November 2022 (winter);
- 12 months of AIS-only data from 2021; and
- Anatec's Ship Routes database (Anatec, 2024).

In order to capture vessel traffic data within the seasonal vessel traffic surveys and long-term dataset, two study areas were defined as part of the NRA process – the 'offshore study area' and 'routeing study area' (see section 3.4 of Supporting Study 14: Navigational risk assessment of the Offshore EIA Report). These are described as below:

- Offshore study area – the OAA and a 10 nm buffer (see Figure 4-2); and
- Routeing study area – area included within the offshore study area, with the addition of searoom to the north and west of the offshore study area in order to capture traffic passing offshore of Sule Skerry (see Figure 4-3).

Using the vessel traffic datasets, vessel routes were characterised within the routeing Study Area as part of the NRA process. Those which may navigate the Sule gap or the ATBA gap have been identified. It is noted that for these routes, it is assumed that all vessels that could use the gap (if they are deemed as suitable for navigation) will do so. This is a conservative estimate, as it is not likely that all vessels would choose to transit through the gap; and in any

case, alternative routeing options are available, such as routeing further north of Sule Skerry and Stack, or transiting through the ATBA.

4.2.1 Sule gap

From the assessment of post wind farm routeing, it is anticipated that two main commercial routes may use the Sule Gap (Routes 8 and 12). These are the same routes that the UKCoS indicated may look to use the Sule gap in their response to the Offshore Application. These routes are shown in Figure 4-2, and described in further detail in Table 4-1.

Table 4-1 Potential Sule gap user details

ROUTE	VESSELS PER WEEK	ROUTE DESCRIPTION	VESSEL LENGTH DETAILS
8	2	Belfast – Norwegian/Russian ports. Consisted primarily of cargo vessels, with tankers also recorded.	Average – 94 m 90th Percentile – 141 m Maximum – 248 m
12	1	Ullapool – Scalloway. Consisted primarily of fish farm vessels, with other cargo vessels and tankers also recorded.	Average – 59 m 90th Percentile – 108 m Maximum – 238 m

4.2.2 ATBA gap

As noted in section 4.1, only vessels over 5,000 GT carrying oil or hazardous cargoes in bulk are restricted from using the ATBA, and so not all vessels would choose to transit through the ATBA gap as opposed to transiting through the ATBA itself. As no main commercial routes were noted that may deviate through the ATBA gap, the use of the long-term AIS data allowed for identification of lower use routeing. Of particular relevance to this report were vessels observed to be deliberately avoiding the ATBA based on their transit patterns. These vessels may therefore opt to deviate through the ATBA gap.

The tracks of vessels identified on this basis from the long-term AIS are shown in Figure 4-3. It is noted that this only includes vessels matching the criteria above (>= 5,000 GT) taking transits that indicate that they may be avoiding the ATBA.

Approximately one transit of this nature per week was identified over the year of data (the long-term AIS data). The majority of these vessels were cargo vessels (76%), with tankers (14%) and oil and gas vessels (10%) also recorded (this means an average of one tanker per month was identified noting these are the most likely vessels to be avoiding the ATBA). These cargo vessels typically routed between Icelandic ports and Hull/Rotterdam, with the oil and gas vessels and tankers routeing to oil and gas fields west of Shetland, such as Glen Lyon. The maximum vessel length recorded was 264 m.

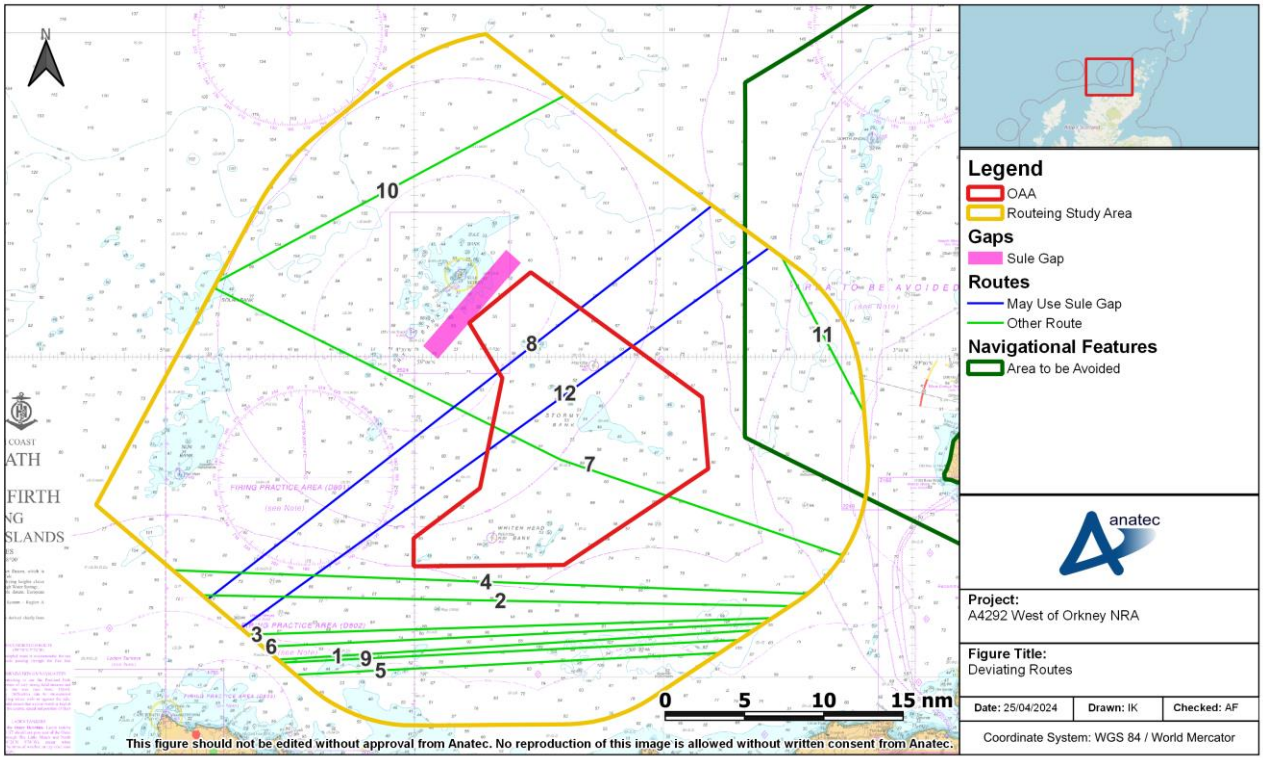

Figure 4-2 Routes which may use the Sule gap

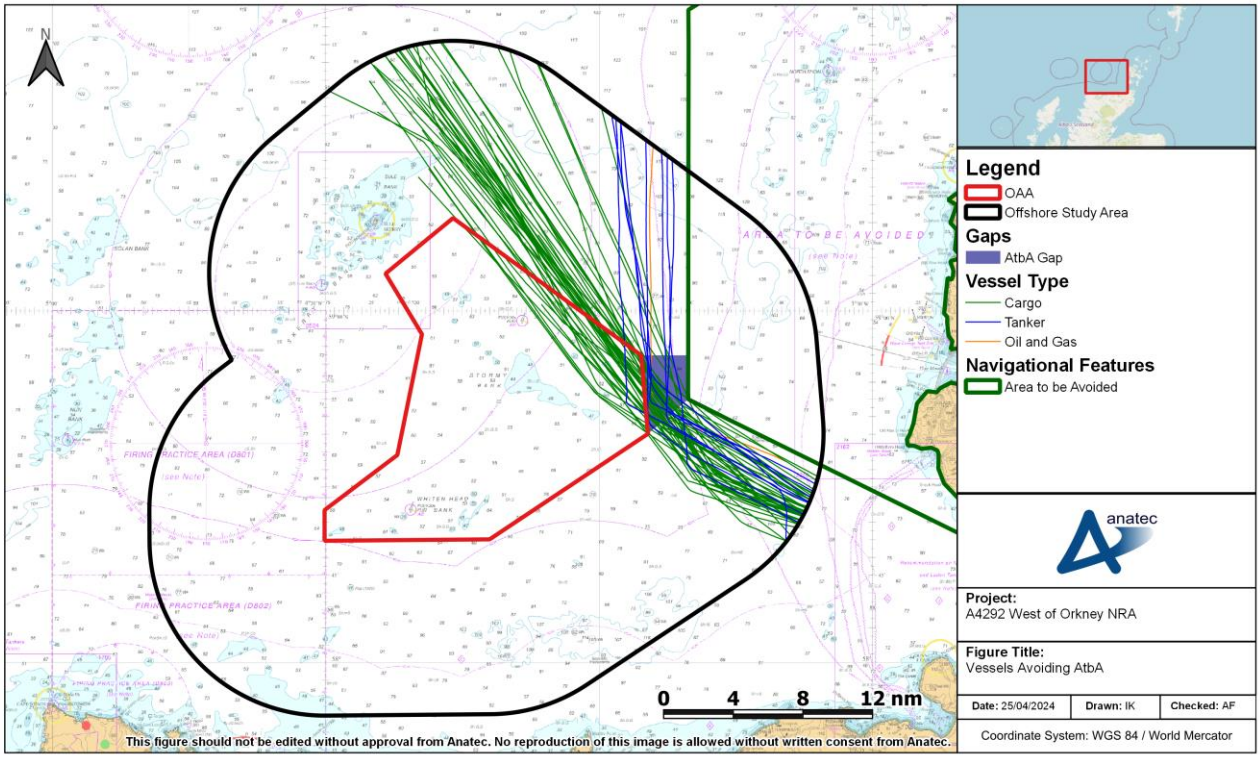

Figure 4-3 Vessels potentially avoiding the ATBA

4.3 Corridor guidance

This section of the addendum to chapter 15: Shipping and navigation of the Offshore EIA Report summarises the guidance considered within the Safety Case. The primary guidance considered for the assessment of navigational safety of the gaps are as follows:

- Marine Guidance Note (MGN) 654 (MCA, 2021);
- Interaction Between Offshore Wind Farms Navigation as set out in Maritime Navigation MarCom WG Report 161 (Permanent International Association of Navigation Congresses (PIANC), 2018); and
- A study from the Maritime Institute Netherlands (MARIN) (referenced within the Maritime Navigation MarCom WG Report 161).

It is important to note that these guidance documents do not consider the specific scenario of a gap between a wind farm and a rocky outcrop or an ATBA. Best interpretation has therefore been applied, and the associated assumptions made are detailed in the relevant subsections.

4.3.1 MGN 654

MGN 654 (MCA, 2021) is the primary guidance used when considering navigational safety of UK offshore wind farms. The guidance includes recommendations on the widths of navigation corridors between wind farms.

4.3.1.1 MCA wind farm shipping route template

Annex 2 of the MGN 654 guidance provides the MCA "Wind Farm Shipping Route Template" for assessing distances between wind farm boundaries and shipping routes, including Traffic Separation Schemes (TSS) as a special case. The template is summarised in Table 4-2.

In summary, it can be seen that a distance of less than 0.5 nm between an array boundary and a shipping route is considered intolerable. Between 0.5 nm and 3.5 nm can be tolerable with mitigation. The minimum required distance between WTGs on opposite sides of a route used by vessels is 3.5 nm (e.g., if a route passes between two adjacent wind farms then the separation distance between the two must be at least 3.5 nm).

Table 4-2 MCA wind farm shipping route template

Distance of turbine boundary from shipping route (90% of traffic)	Factors for consideration	Risk	Tolerability
<0.5nm (<926m)	X-Band radar interference Vessels may generate multiple echoes on shore-based radars	VERY HIGH	INTOLERABLE
0.5nm to <1nm 926m to <1852m	Mariners' Ship Domain (vessel size and manoeuvrability)	HIGH	TOLERABLE IF ALARP Additional risk assessment and proposed mitigation measures required * Descriptions of ALARP can be found in: a) Health and Safety Executive (2001) 'Reducing Risks, Protecting People' b) IMO (2018) MSC-MEPC.2/Circ.12/Rev.2 dated 9 April 2018, 'Revised Guidelines for Formal Safety Assessment (FSA) in the IMO Rule-Making Process'
1nm to <2nm 1852m to <3704m	Minimum distance to parallel an IMO routeing measure S-Band radar interference ARPA affected (or other automatic target tracking means)	MEDIUM	
2nm to 3.5nm (3704m – 6482m)	Preferred distance to parallel boundary of an IMO routeing measure Compliance with COLREG becomes less challenging	LOW	
>3.5nm (>6482m)	Minimum separation distance between turbines on opposite sides of a route	LOW	BROADLY ACCEPTABLE
>5nm (>9260m)	Adjacent wind farm introduces cumulative effect Minimum distance from TSS entry/exit	VERY LOW	BROADLY ACCEPTABLE

4.3.1.2 Track deviation in heavy weather (20°)

The MCA guidance (MCA, 2021) outlines factors that must be considered in establishing the minimum width of a corridor between two arrays. The assessment should be undertaken on a case-by-case basis, but notes:

Experience also shows that in heavy sea conditions it is much harder to turn the vessel around and may not be possible to achieve a dead stop and deviations from track are common. Therefore 20° or more, are common and must be considered in developing corridors through OREIs [Offshore Renewable Energy Installation].

This minimum width of a corridor can therefore be calculated using the length of the corridor, assuming an internal angle of 20° between the long edge of the corridor and the diagonal, as illustrated in Figure 4-4.

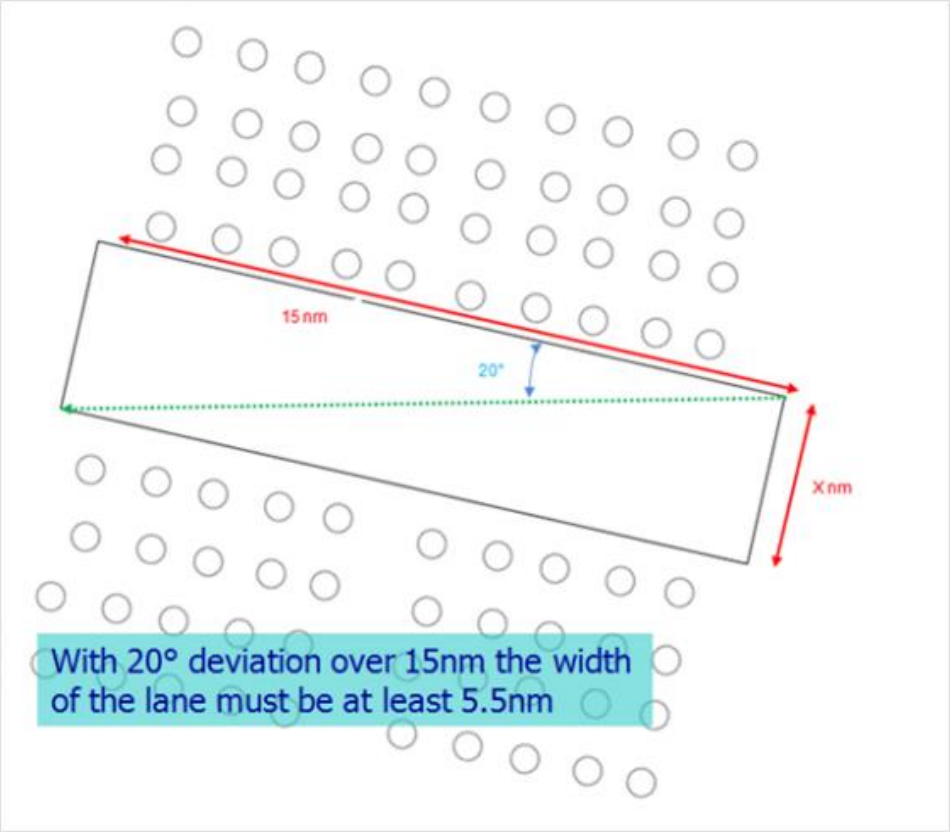

Figure 4-4 20° deviation rule (MCA, 2021)

4.3.2 PIANC and MARIN

The PIANC Guidance on the Interaction between Offshore Wind Farms and Maritime Navigation (PIANC, 2018) provides an approach, good-practice guidelines and recommendations to assess the required manoeuvring space for ships in the vicinity of offshore wind farms and the minimum recommended distance between shipping lanes and wind farm in order to ensure a minimal risk to navigation. Conformity is not obligatory and engineering judgement should be used in its application, especially in special circumstances.

A width calculation methodology for collision avoidance involving a complete round turn to starboard by a vessel encountering another vessel is provided. Although this methodology is designed for a TSS running parallel to an offshore wind farm, it is considered relevant and useful for corridor design, noting that vessels may have greater flexibility to alter course in the event that collision avoidance is required than would be the case within an International Maritime Organization (IMO) routeing measure e.g., TSS. The approach is therefore precautionary.

As illustrated in Figure 4-5, the calculation assumes a 500 m safety zone from the offshore Project structures. This has been used to ensure that calculations relating to safe round turns are not impacted by blade overfly, micro-siting or any approved safety zones that may be in place. The round turn requires a six-vessel length diameter and is preceded by a 0.3 nm distance for an initial deviation prior to undertaking the round turn.

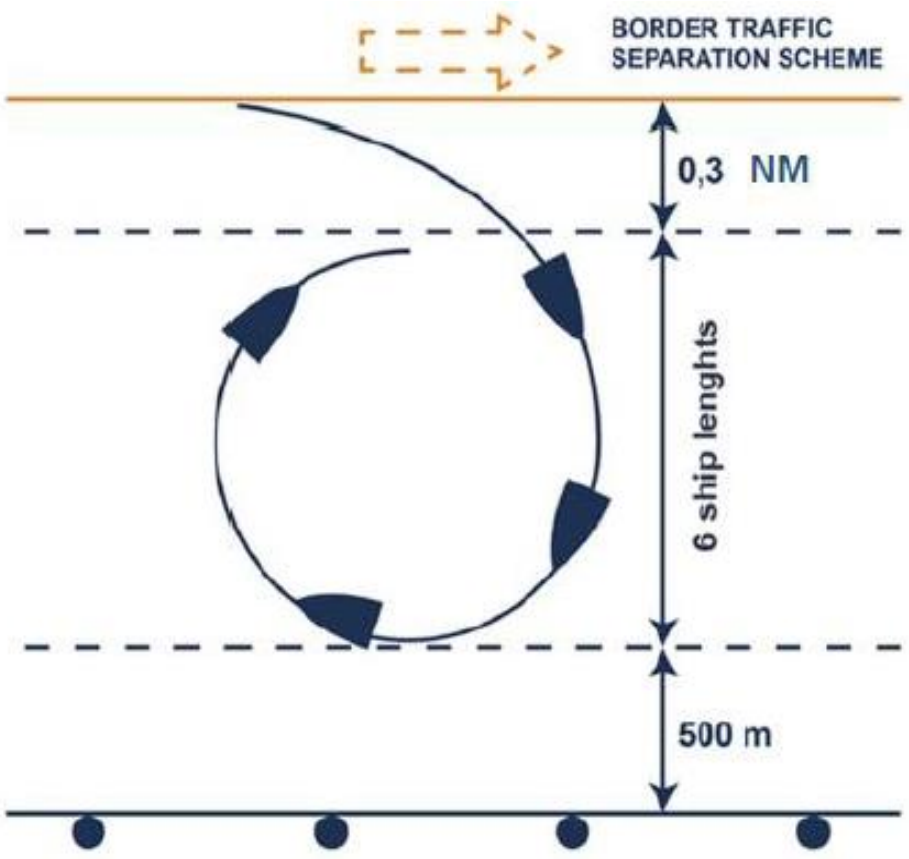

Figure 4-5 Sea space required for full round turn (PIANC, 2018)

A study undertaken by MARIN and referenced in both the PIANC guidance (PIANC, 2018) and The Shipping Industry and Marine Spatial Planning (MSP) – A Professional Approach (Nautical Institute, 2013) states that the width of a gap should consider:

1. Number of vessels: based on AIS study, keeping in mind the future development during the lifespan of the structures;
2. Maximum size of vessels: same as point 1 re: future development;
3. Number of vessels overtaking:
    a. <4,400 vessels per year: two vessels side to side;
    b. >4,400 vessels and <18,000 vessels: three side to side;
    c. >18,000 vessels: four vessels side to side; and
4. Room per vessel: two ship lengths.

The number of vessels side by side is identified from the MARIN study, and is referenced in the content within the Interaction between Offshore Wind Farms and Maritime Navigation MarCom WG Report 161 (PIANC, 2018).

For the purposes of the calculations in this report, it has been assumed that the gap will be required to comprise of a central area wide enough to accommodate vessel transits and additional space either side of the central area where a physical hazard exists to allow for collision avoidance manoeuvres as illustrated in Figure 4-6.

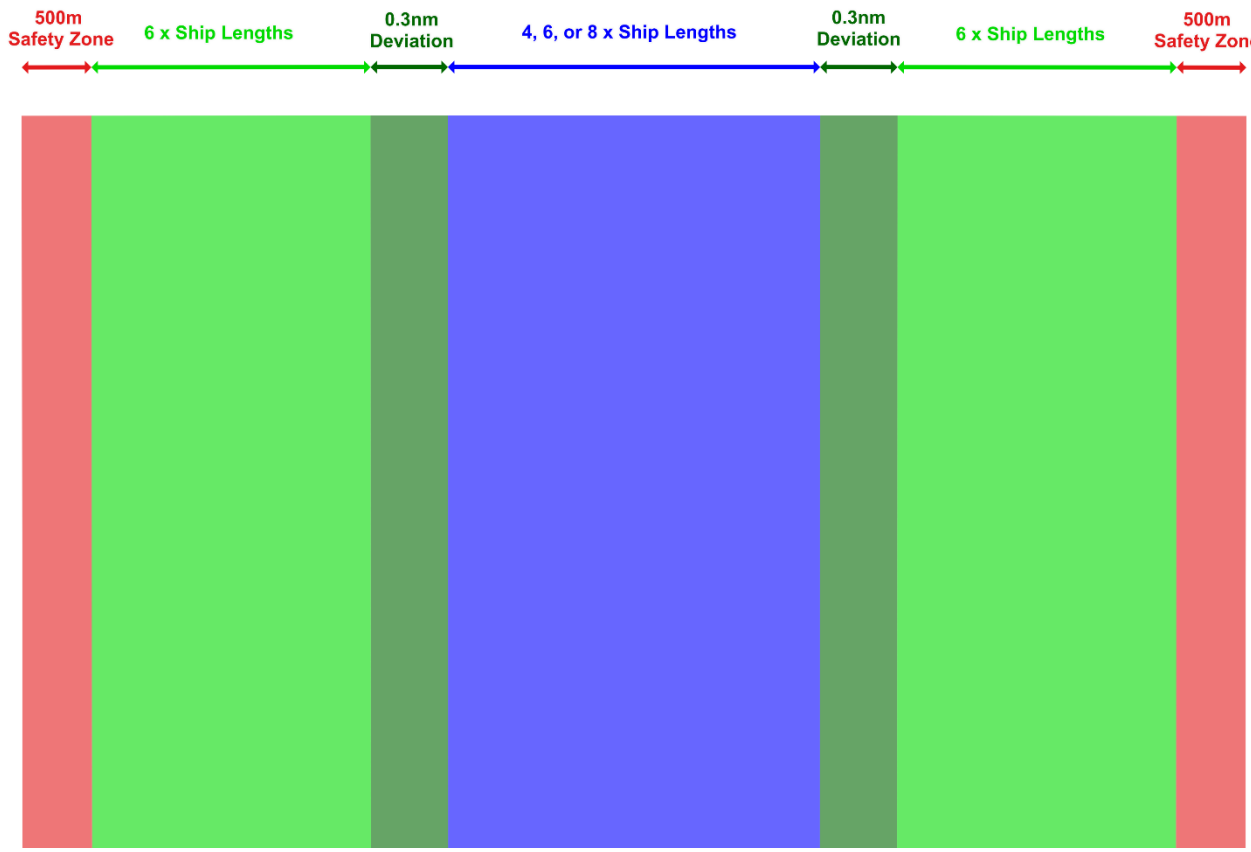

Figure 4-6 Gap methodology applied based on PIANC and MARIN

4.4 Width calculations

This section of the addendum to chapter 15: Shipping and navigation of the Offshore EIA Report applies the corridor guidance detailed in section 4.3 to the Sule and ATBA gaps to determine suitable respective widths. Section 4.4.1 provides the input assumptions that have been made, and section 4.4.2 provides the outputs of the application of the guidance.

4.4.1 Baseline gap measurements

This section of the addendum to chapter 15: Shipping and navigation of the Offshore EIA Report provides the assumptions made in relation to the ATBA and Sule gaps for the purposes of the corridor calculations.

Although the length of the OAA on the Sule gap is approximately 5 nm, Sule Stack, as well as Sule Skerry must also be taken into account as a navigational hazard. From vessel traffic data collated during the NRA process (see Supporting Study 14: Navigational risk assessment of the Offshore EIA Report), it is considered unlikely that a vessel would opt to transit within 1 nm of either the Sule Skerry or Sule Stack given the significant navigational hazard posed. On this basis, for the purposes of the calculations in this report, the Sule gap is considered as being bounded by a 1 nm buffer of Sule Skerry and Sule Stack The eastern extent is bounded by the northernmost point of the OAA, and

the western edge by the Sule Stack. On this basis the Sule gap has a length of 7.9 nm and minimum width of 1.2 nm (see Figure 4-7).

The application of a 1 nm buffer around the Sule Skerry and Sule Stack is considered as accounting for the unique nature of the Sule gap, and addressing the fact that the applied guidance is designed to identify navigable width between wind farms, as opposed to rocky outcrops. The UKCoS and the MCA agreed with this assumption during consultation meetings held on 26th April 2024 and 30th April 2024.

The ATBA gap is defined as the searoom between the OAA and ATBA, with a length of 4.5 nm and minimum width of 2.4 nm. There is no physical hazard bounding the eastern edge of the ATBA gap, and this has been accounted for in the calculations (further details of this are provided in section 4.4.2).

Based on these assumptions, the existing ATBA and Sule gaps are illustrated in Figure 4-7.

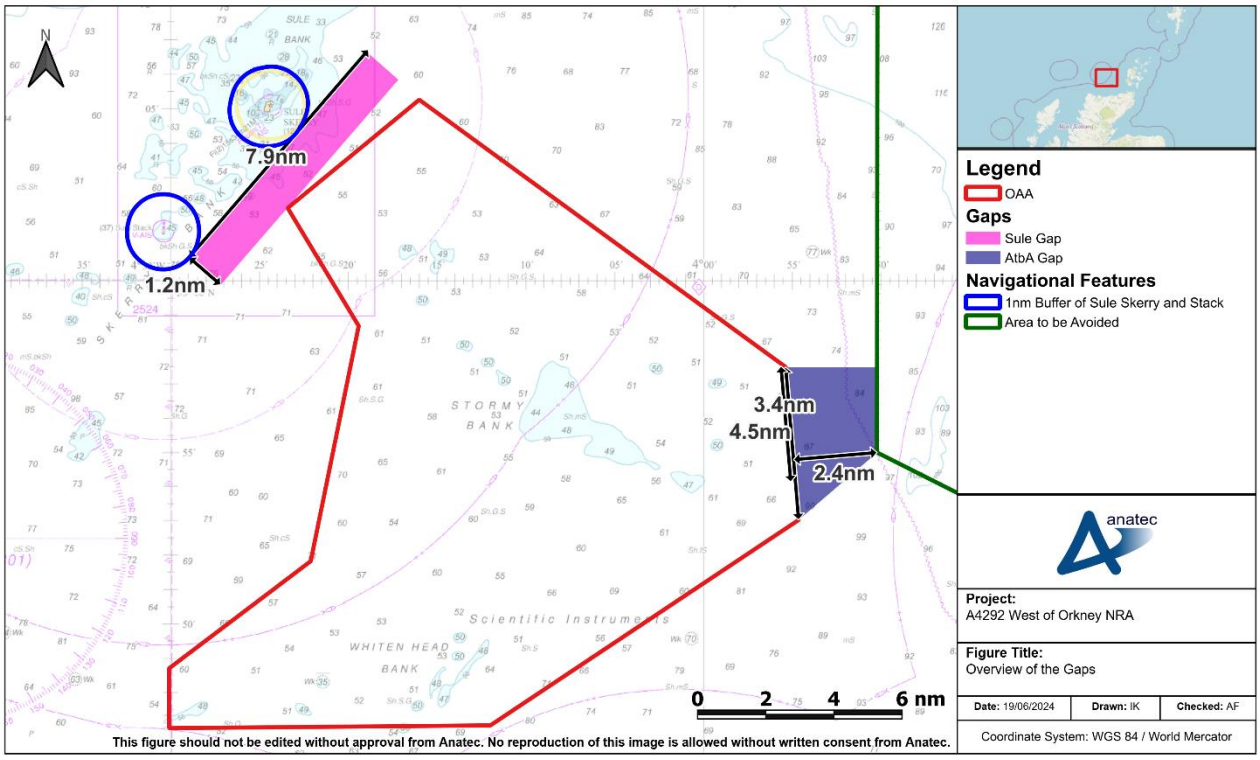

Figure 4-7 Overview of the gaps

4.4.2 Calculation results

The findings of the various corridor calculation methods for the Sule and ATBA gaps are summarised in Table 4-3. The results apply the following caveats and assumptions:

- The maximum vessel length recorded of vessels that are estimated to use either the Sule or ATBA gap (264 m, as per section 4.2) has been applied to relevant width calculations for both gaps, noting that this was the maximum length of a vessel likely to use the ATBA Gap and so is conservative for the Sule gap;
- The 1 nm buffer around Sule Skerry and Sule Stack is considered to be the limit of the Sule gap. The southern edge of this 1 nm buffer is therefore assumed to constitute a wind farm for the purposes of the Sule gap width calculations;
- As there are no physical constraints to the easternmost limits of the ATBA gap, and with vessels that would usually be prohibited from entering the ATBA able to do so in emergency situations, it has been assumed that the six vessel lengths and 500 m safety zones separation distances are not required within the associated gap width calculations (this assumption was discussed with the UKCoS and the MCA during consultation meetings held on 26th April 2024 and 30th April 2024); and
- In terms of vessel volumes, noting that on average less than one per day per gap is anticipated (see section 4.2) it has been assumed that less than 4,400 vessels per year will use the gaps. This means the MARIN guidance would require two vessels side by side (section 4.3.2). The NRA (Supporting Study 14: Navigational Risk Assessment) assumed potential future case increases of 10 and 20%, both of which would still result in significantly less than 4,400 vessels per year.

Table 4-3 Summary of calculation method results

METHOD	SULE GAP WIDTH* (nm)	ATBA GAP WIDTH (nm)
MGN 654 Shipping Route Template	3.5	Considered not applicable given there is no physical hazard to the east.
MGN 654 20° Rule	2.9	1.7
PIANC and MARIN	3.4	2.3
Actual Width	1.2	2.4

**** All values shown for the Sule gap exclude a 1 nm buffer around the Sule Stack and Sule Skerry as per section 4.4.1.***

On the basis of the calculation outputs, and consultation with the MCA and the UKCoS on the proposed mitigation and calculations behind it, it is proposed that:

- The Sule gap is widened to 3.5 nm (4.5 nm in total accounting for the 1 nm buffer referenced in section 4.4.1); and
- The ATBA gap remains at its current width of 2.4 nm (this is based on the outputs of the corridor calculations, the very low frequency of use, and the lack of a physical hazard bounding the eastern edge).

The mitigation will be implemented via RBA-A, which commits to no WTG, offshore substation platform or met-ocean measuring equipment, forming part of the offshore Project, being erected within the green region shown in Figure 4-8.

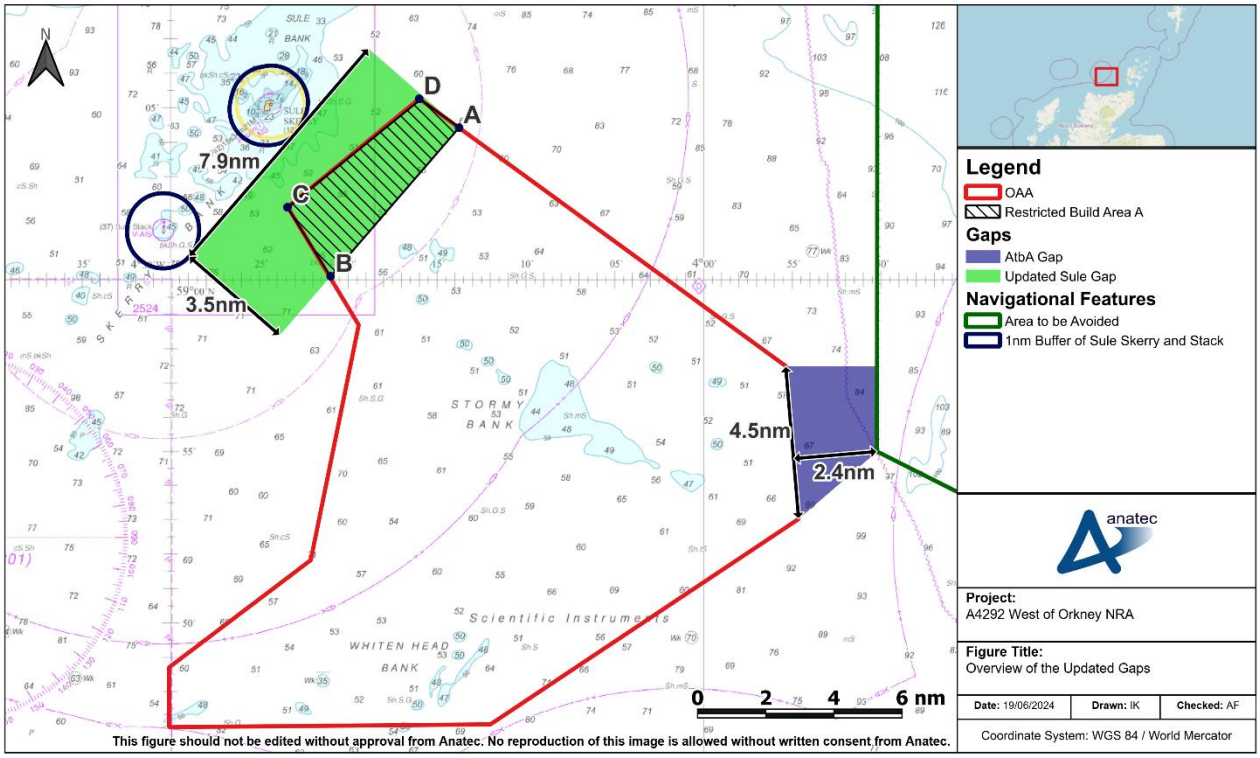

Figure 4-8 Proposed mitigation

Table 4-4 Coordinates for RBA-A provided in WGS84 - UTM30N

POINT	WGS84 - UTM30N		WGS84 - DEGREES MINUTES SECONDS		WGS84 - DECIMAL DEGREES	
	COORDINATE X	COORDINATE Y	LAT - DMS	LONG - DMS	LAT - DD	LONG - DD
Restricted Build Area A						
A	429558	6548884	N59° 04' 24.59082822"	W004° 13' 43.52418048"	59.073497	-4.228757
B	422460	6540991	N59° 00' 05.04849926"	W004° 20' 59.12748809"	59.001402	-4.349758
C	420217	6544775	N59° 02' 05.86101440"	W004° 23' 24.56072903"	59.034961	-4.390156
D	427505	6550431	N59° 05' 13.35292920"	W004° 15' 54.25861596"	59.087042	-4.265072

5 SUMMARY AND CONCLUSIONS

This document acts as an addendum to chapter 15: Shipping and navigation of the Offshore EIA Report to address the MD-LOT Additional Information Request. Additional information has been provided on queries raised by MD-LOT, UKCoS and MCA. The additional mitigation provided has addressed the key issues raised and the Applicant is committing to a Restricted Build Area (RBA-A) informed by the Safety Case (see Figure 4-8). This will be enforced through the below proposed condition on the Section 36 consent and/or Marine Licence:

- No wind turbine generator, offshore substation platform or met-ocean measuring equipment forming part of the Development shall be erected within the area (that being RBA-A).

A further RBA, RBA-B, has been developed in relation to seascape, landscape and visual receptors (see Seascape, Landscape and Visual Additional Information and section 4 of the Introduction for further information) (see Figure 5-1). While not developed for shipping and navigational concerns, RBA-B has a proposed consent condition as outlined below which required consultation with the MCA:

- No WTG forming part of the Development shall be erected; and
- Unless otherwise agreed in writing by the Scottish Ministers following consultation with the MCA, no offshore substation platform or met-ocean measuring equipment forming part of the Development shall be erected.

The proposed consent condition wording has been agreed in consultation with MCA and UKCoS.

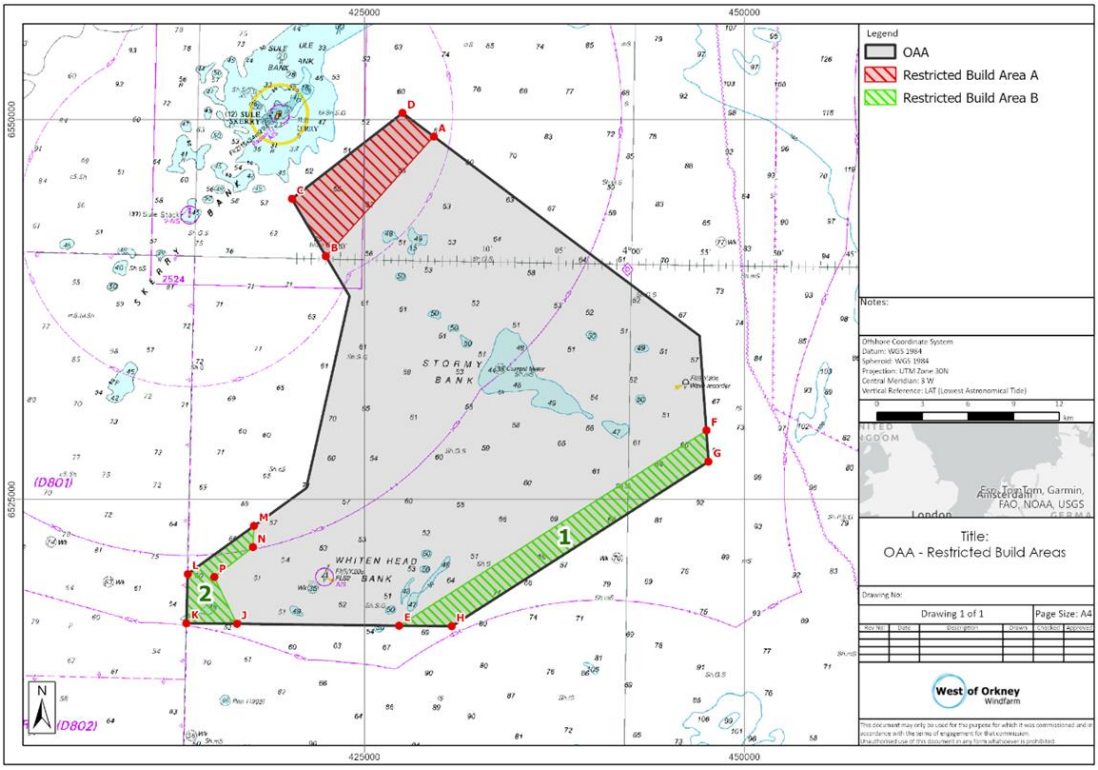

Figure 5-1 OAA with highlighted RBAs

6 REFERENCES

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7 ACRONYMS

ACRONYM	DEFINITION
AIS	Automatic Identification System
ATBA	Area to be Avoided
EIA	Environmental Impact Assessment
GT	Gross Tonnes
IMO	International Maritime Organization
MARIN	Maritime Institute Netherlands
MCA	Maritime and Coastguard Agency
MD-LOT	Marine Directorate - Licensing Operations Team
MGN	Marine Guidance Note
MHWS	Mean High Water Springs
MSP	Marine Spatial Planning
NLB	Northern Lighthouse Board
nm	Nautical Mile
NRA	Navigational Risk Assessment
OAA	Option Agreement Area
OWF	Offshore Wind Farm
OWPL	Offshore Wind Power Limited
PIANC	Permanent International Association of Navigation Congresses

ACRONYM	DEFINITION
RBA	Restricted Build Area
SEZ	Structures Exclusion Zone
TSS	Traffic Separation Schemes
UK	United Kingdom
UKHO	United Kingdom Hydrographic Organisation
UKCoS	United Kingdom Chamber of Shipping
WTG	Wind Turbine Generator