Annex I Application for Planning Permission for the Proposed Development ACP Case Ref. ABP-319864-24, EIAR Volume III - Appendix 25.7: Vessel Management Plan



Arklow Bank Wind Park 2

Environmental Impact Assessment Report

Volume III, Appendix 25.7: Vessel Management Plan

sse Renewables

Arklow Bank Wind Park 2
Vessel Management Plan

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Version	Date	Status	Author	Reviewed by	Approved by
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Statement of Authority

Experts	Qualifications	Relevant Experience
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Abbreviations Table

Abbreviation	Definition
ABWP2	Arklow Bank Wind Park 2
AIS	Automatic Identification System
ALARP	As Low as Reasonably Practicable
AtoN	Aid to Navigation
CIL	Commissioners of Irish Lights
COLREGS	Convention on the International Regulations for Preventing Collisions at Sea (1972)
CTV	Crew Transfer Vessel
EIAR	Environmental Impact Assessment Report
ERCoP	Emergency Response Cooperation Plan
IALA	International Association of Lighthouse Authorities
IHO	International Hydrographic Organization
IMO	International Maritime Organization
IRCG	Irish Coastguard
JUV	Jack-Up Vessel
LMP	Lighting and Marking Plan
MCA	Maritime and Coastguard Agency
MCC	Marine Coordination Centre
MCIB	Marine Casualty Investigation Board
MSO	Marine Survey Office
NAVAREA	Navigation Area
nm	Nautical Mile
NRA	Navigational Risk Assessment
NtM	Notice to Mariners
RAM	Restricted in ability to manoeuvre
SOLAS	International Regulations for the Safety of Life at Sea
SOV	Service Operations Vessel
SPL	Sure Partners Limited

Abbreviation	Definition
SSE	SSE plc
TSS	Traffic Separation Scheme
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
UXO	Unexploded Ordnance
VHF	Very High Frequency
VMP	Vessel Management Plan
WGS	World Geodetic System
W2W	Walk-to-Work
WTG	Wind Turbine Generator

Unit Table

Unit	Description
nm	Nautical mile

Vessel Management Plan Audience

It is the responsibility of appropriate vessel representatives associated with either the Arklow Bank Wind Park 2 (ABWP2) or any relevant contractors to ensure that all vessel Masters and crew associated with ABWP2 have read and understood the contents of this Vessel Management Plan, and to hold a copy on board.

Each vessel representative should sign the below and retain the signed copy to confirm this has been actioned.

Date	Name	Signature

1 Introduction

Sure Partners Limited (SPL) (hereafter 'the Developer'), a wholly owned subsidiary of SSE plc (SSE) is the developer of Arklow Bank Wind Park 2 (ABWP2) Offshore Infastructure (hereafter 'the Proposed Development'), a planned offshore windfarm located in Irish waters and approximately 3.2 – 8.1 nautical miles (nm) off the coast of County Wicklow.

It has been identified through the Navigational Risk Assessment (NRA) process (Volume III, Appendix 15.1) that maintaining documented vessel management procedures is a necessary mitigation to ensure associated risks are within As Low As Reasonably Practicable (ALARP) parameters for the Proposed Development. This is based on feedback received during consultation including at the hazard workshops held for the Proposed Development[1].

On this basis this Vessel Management Plan (VMP) has been produced to document the associated measures that will be in place. The document covers the following:

- Specific measures to be implemented during the construction phase;
- Specific measures to be implemented during the operations and maintenance phase;
- Measures to be implemented during the decommissioning phase;
- How information relating to the Proposed Development will be promulgated;
- Approach to indicative transit corridors from relevant ports to the Array Area;
- Consideration for areas where anchoring may occur and where it will not occur.

The decommissioning phase is anticipated to represent a similar scenario to the construction phase in terms of increased vessel activity and therefore similar procedures will be applied (see Section 2). This is referenced where appropriate in this document, noting that the VMP will be reviewed in advance of the decommissioning phase.

[1] The hazard workshop is a key element of the Navigation Risk Assessment process, and comprises a group session discussion with relevant stakeholders on potential shipping and navigation impacts.

2 Navigational Safety Measures during Construction / Decommissioning

2.1 Marine Coordination

The Developer will establish a Marine Coordination Centre (MCC) which will be used during the construction and decommissioning phases. This will represent a central control base with overarching responsibility for ensuring impacts from project vessels to third party traffic are minimised. Measures in place on this basis to be managed from the MCC will include as a minimum;

- Permission for construction vessels to enter the construction area, for example using a Permit to Work system;
- Maintain a log of all personnel on site and in advance on any vessel crew/vessel entering the site they will be screened by MCC to ensure all vessels and crew have the appropriate level of certification to operate/work on the site;
- Liaison with vessels with regards to agreed routeing destinations/berth/anchorage (where applicable, and noting that compliance with the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) (IMO, 1972/77) will remain the navigational priority at all times i.e., the MCC will provide project vessels with relevant information as opposed to direct instruction on routeing);
- Monitor vessels and personnel via communication with vessels and Automatic Identification System (AIS) for any potential vessel access conflicts;
- Defining of advisory safe passing distances (see Section 2.4);
- Obtain and provide localised weather information for project vessels to plan the work being undertaken;
- Being the central internal contact point for contractors in case of an emergency; and
- Issuing of Notice to Mariners (NtM) (see Section 4.1).

A similar central MCC will be established for decommissioning.

2.2 Temporary Lighting and Marking

Based on consultation to date including with the Commissioners of Irish Lights (CIL) and at the hazard workshop, it is proposed that during the construction phase, all structures will be marked via temporary lighting, and temporary buoyage will be used to mark the overall site. This will minimise allision[2] risk, and alert passing mariners of the presence of the structures and works within the Array Area.

The process by which the temporary lights will be removed relative to the activation of the operational lighting and marking will be agreed with CIL as part of the Lighting and Marking Plan (LMP) process. A LMP has been included with the EIAR (Volume III, Appendix 25.6: Lighting and Marking Plan), which is compliant with the International Association of Marine

[2] Contact between a vessel and a fixed structure.

Aids to Navigation and Lighthouse Authorities (IALA) Guidance on the Marking of Offshore Man-Made Structures G1162 (IALA, 2021).

The use of temporary lighting is considered best practise and is applied as standard for United Kingdom (UK) offshore windfarm projects, and the NRA has determined that they are a necessary mitigation for the Proposed Development for hazards to be ALARP.

Lighting and marking to be implemented during decommissioning will be agreed with CIL, however is anticipated to likely be similar to that used during the construction phase in terms of use of buoyage.

2.3 Guard Vessels

Guard vessels may be required at the Proposed Development at particular times during all phases, for example when other project vessels are particularly vulnerable due to partially completed works or a particular construction activity. During these periods, the construction area will be monitored by guard vessel(s) to further protect the area and to provide additional information to third-party vessels.

The decision(s) on when to use a guard vessel will be informed by a dynamic risk assessment process for the activities required to construct the Proposed Development.

2.4 Advisory Safe Passing Distances

There is currently no framework by which statutory safety zones can be deployed by offshore windfarm developers at Irish offshore windfarm. However, the Developer may utilise advisory safe passing distances around project infrastructure or works associated with the construction, and decommissioning phases. These advisory safe passing distances will be promulgated via the means set out in Section 4, and will serve to alert passing mariners to potential hazards.

2.5 Cable Laying and Other RAM Operations

Restricted in their ability to manoeuvre (RAM) vessels will likely be utilised during the cable installation works and heavy lifting operations, and during decommissioning. RAM vessels are those restricted in their ability to manoeuvre as a result of the nature of the work they are undertaking and therefore are restricted in avoiding an approaching vessel(s). All RAM vessels involved in the construction of the Proposed Development will comply with the COLREGs (IMO, 1972/77). All vessels, regardless of their nationality, are required to comply with this convention to ensure that they do not interact with vessels that are restricted in their navigational ability.

RAM vessels will display lights and shapes to indicate their restrictions. They will transmit safety warnings on Very High Frequency (VHF) to inform other vessels of their actions using the 'Securité' message if the messages contain important information relating to navigation. Communications between RAM vessels and the MCC will be ongoing throughout the operations.

RAM vessels will comply with vessel type regulation information transmitted through AIS and show current navigational status at all times to ensure other vessels equipped with AIS can identify that they are RAM.

Cable laying activities will also be promulgated through the notification procedure, and, if necessary, following internal risk assessment, guard vessels (see Section 2.3) or advisory safe passing distances (see Section 2.4) may be employed during the cable laying period.

2.6 Emergency Response Cooperation Planning

The initial plan has been included within the Environmental Impact Assessment Report (EIAR) in Volume III, 25.5 Emergency Response Cooperation Plan which will be developed in consultation with IRCG post consent. The Developer will work with the Irish Coastguard (IRCG) to develop a document that bridges the Proposed Development's emergency response plans and those of the IRCG. This document will detail the procedures by which the Developer will cooperate with IRCG in the event of an emergency incident.

The plan will be reviewed in advance of decommissioning and in liaison with IRCG.

3 Navigational Safety Measures during Operation and Maintenance

3.1 Marine Coordination

A MCC will be in place during the Operational and Maintenance phase. This may be in a different location to the location of the MCC used during the construction phase (see Section 2.1) however the overarching responsibilities will remain the same. On this basis responsibilities will include at a minimum;

- Permission for operation and maintenance vessels to enter the Proposed Development, for example using a Permit to Work system;
- Maintain a log of all personnel on site and in advance on any vessel crew/vessel entering the site they will be screened by MCC to ensure all vessels and crew have the appropriate level of certification to operate/work on the site;
- Liaison with vessels with regards to agreed routeing destinations/berth/anchorage (where applicable, and noting that compliance with COLREGS will remain the navigational priority at all times i.e., the MCC will provide project vessels with relevant information as opposed to direct instruction on routeing);
- Monitor vessels and personnel via communication with vessels and AIS for any potential vessel access conflicts;
- Defining of advisory safe passing distances (see Section 2.4);
- Obtain and provide localised weather information for project vessels to plan any maintenance work being undertaken;
- Being the central internal contact point for contractors in case of an emergency; and
- Issuing of Notice to Mariners (see Section 4.1).

3.2 Operational Lighting and Marking

Consultation has indicated that CIL will expect the Developer to comply with the International Association of Lighthouse Authorities (IALA) G1162 Guidance on the Marking of Offshore Man-Made Structures (IALA, 2021). Precise marine lighting and marking to be implemented during the operation and maintenance phase will be agreed with CIL via the LMP process. A LMP has been included with the EIAR (Volume III, Appendix 25.6: Lighting and Marking Plan) which is compliant with the IALA Guidance on the Marking of Offshore Man-Made Structures G1162 (IALA, 2021).

3.3 Guard Vessels

As for the construction phase (see Section 2.3), guard vessels may be required at the Proposed Development at particular times, for example when other project vessels are particularly vulnerable during major maintenance activity. During these periods, the works will be monitored by guard vessel(s) to further protect the area and to provide additional information to third-party vessels.

The decision(s) on when to use a guard vessel will be informed by a dynamic risk assessment process for the activities required to construct the Proposed Development.

3.4 Advisory Safe Passing Distances

As noted in Section 2.4, there is currently no framework by which statutory safety zones can be deployed by offshore windfarm developers at Irish offshore windfarm. However, the Developer may utilise advisory safe passing distances around project infrastructure or maintenance works. These advisory safe passing distances will be promulgated via the means set out in Section 4, and will serve to alert passing mariners to potential hazards.

3.5 Emergency Response Cooperation Planning

An initial plan has been included within the Environmental Impact Assessment Report (EIAR) in Volume III, 25.5 Emergency Response Cooperation Plan which will be developed in consultation with IRCG post consent. As noted in Section 2.6, the Developer will work with the IRCG to develop a document that bridges the Proposed Development's emergency response plans and those of the IRCG. This document will detail the procedures by which the Developer will cooperate with IRCG in the event of an emergency incident, and will be updated in advance of the operational phase with any relevant details (e.g., as built locations of structures).

4 Promulgation of Information

This section provides information on the proposed approach to distribution and issuing NtM, and other appropriate notifications to the relevant stakeholders and other marine users.

4.1 Notice to Mariners

NtM will be issued in advance of any activity associated with the Proposed Development which may impact upon navigational safety. The Developer will liaise with the Department of Transport who may issue the NtM via their website as Marine Notices (gov.ie - Marine Notices 2023 (www.gov.ie) as detailed in Section 4.2. The MCC will then issue the NtM to a list of relevant and national stakeholders. This marine stakeholder list will be regularly updated to ensure contact details remain up to date and all relevant parties are included.

The NtM will be concise, detailing navigational safety information and will include the information set out in Table 25.7.1: , which is per the Department of Transport guidance on the Required Information for the Issue of Marine Notices (Department for Transport, 2023).

Table 25.7.1: Content of NtM / Marine Notice

1. Type of Activity	**Type of activity being undertaken, e.g. Subsea survey, Deployment of buoy, etc.**
2. Duration of Activity	Starting date and approximate finishing date for operations. Marine Notices will usually state that dates given are weather dependant
3. Location	Coordinates that follow the conventional method of maritime positions, using WGS 84, where latitude is given before longitude.
4. Vessels Involved	Name of vessel, type of vessel and call sign of vessel.
5. Safety precautions taken	e.g., buoys or markers to highlight area of activity, radio transmissions to notify other seafarers (i.e. VHF channel) etc.
6. If buoys are used	Information on the type / colour of buoy and the colour and flashing sequence of any lights attached must be included.
7. Diagrams and/or maps	Will also be included. Will show extract(s) from an up-to-date admiralty chart.

Any vessels used in operations will be appropriately licensed and have the requisite Certificates, e.g. Irish Load Line Cert, in place beforehand. Issuance of a Marine Notice does not grant permission for works or operations to commence. The required permissions /

licences / certificates will be obtained in advance from the relevant authorities e.g., Foreshore License, license to dive/survey etc.

4.1.1 NtM Issued Prior to the Commencement of Construction

The Developer will, as soon as practicable prior to the commencement of any construction activities, ensure that the stakeholders on the marine stakeholder distribution list are made fully aware of such works through NtM (or any other appropriate means).

4.1.2 NtM upon Commissioning and during O&M

The Developer will ensure all parties on the marine stakeholder distribution list are made fully aware of the completion of the construction works and commissioning of the Proposed Development.

The Developer will ensure that relevant stakeholders are informed via NtM of any planned and unplanned maintenance activities that are outside the day-to-day maintenance activities associated with the Proposed Development.

4.1.3 Post Commissioning

The Developer will, upon the commissioning of the Proposed Development, provide the 'as built' positions and maximum heights of all wind turbine generators (WTGs), substations, and any subsea infrastructure to the United Kingdom Hydrographic Office (UKHO) (who produce Ireland's Admiralty Charts) for nautical charting purposes. WTGs will be charted by the UKHO using the WTG tower chart symbol or within the development area chart symbol (as presented in Symbols and Abbreviations used on ADMIRALTY Paper Charts NP5011 (UKHO, 2020)) on charts deemed appropriate in terms of scale.

The same information will be provided to the Marine Survey Office (MSO).

4.1.4 Decommissioning

The Developer will, as soon as practicable prior to the commencement of any decommissioning activities, ensure that the stakeholders on the marine stakeholder distribution list are made fully aware of such works through NtM and other appropriate means such as newsletters and harbour notices. Stakeholders will also be made aware following completion of decommissioning.

4.2 Marine Notices

Marine Notices are issued by the Department for Transport, and are intended to publicise important safety, regulatory and other information relating to the maritime sector in Ireland. The Department for Transport will be included on the marine stakeholder distribution list (see Section 4.1) and will therefore be provided with NtM issued by the Developer. The Department for Transport may choose to publish the information provided in the NtM as Marine Notices.

4.3 Fishing Vessels

Approach to promulgation of information to fishing vessels is set out in the Volume III, Appendix 25.3 Fisheries Management and Mitigation Strategy.

4.4 Radio Navigational Warnings

Radio navigational warnings may be issued if an activity or incident poses a danger to other marine users. Examples of when radio navigational warnings could be issued are:

- Failures to light signals, fog signals, buoys, or other aid to navigation (AtoN);
- Establishing new AtoN;
- Cable laying activities, where a risk is posed to passing traffic;
- Other underwater operations that may constitute potential dangers in or near shipping lanes; and/or
- Vessels not under command or undertaking significant RAM operations.

In the context of radio navigational warnings, the UKHO act as the Navigation Area (NAVAREA) 1 (NEW Atlantic) Coordinator of the IMO and International Hydrographic Organization (IHO) Worldwide Navigational Warning Service. However, Irish Coastguard are the body responsible for broadcasting the warnings.

4.5 Incident Reporting

As required under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000, any marine incidents / casualties shall be reported to the MSO as soon as is practicable following the occurrence. Following the initial report any relevant details of the incident requested by the Marine Casualty Investigation Board (MCIB) will be provided.

4.6 Port and Harbour Liaison

Input raised during consultation suggested that displaying NtM or similar information in local ports and harbours may increase recreational user awareness of the Proposed Development and any associated works. On this basis the Developer will request with the relevant harbour masters, Port Authority or marina operator that appropriate information (indicatively the NtM) be displayed at the following local harbours and ports:

- Arklow;
- Courtown; and
- Wicklow.

5 Vessel Movements

This section provides details of the vessel types that will be used during the construction phase, and how many vessel movements could be expected for each of those types. Vessel types are also provided for the operational phase.

5.1 Construction Phase

Table 25.7.2 presents the maximum number of vessel movements per year for each potential vessel type. These numbers have been defined for assessment purposes within the EIAR. Further detail is provided in Volume II, Chapter 4 Description of Development.

Table 25.7.2: Maximum Vessel Movements per Year (Construction)

Vessel Type	Movements per Year
Main Installation Vessels (Jack-up Barge/Dynamic Positioning vessel)	76
Support vessels (Service Operations Vessel (SOV) / Walk-to-Work (W") / Commissioning Jack-Up Vessels (JUVs)	163
Tug/Anchor Handlers	128
Cable Installation Vessels	10
Guard Vessels	281
Survey Vessels	48
Crew Transfer Vessels (CTVs)	908
Scour/Cable Protection Installation Vessels	20
Pre-installation boulder removal/clearing vessels	93
Sandwave clearance vessel	64
Unexploded Ordnance (UXO) clearance vessel	6

5.2 Operational Phase

As per Volume II, Chapter 4 Description of Development, the vessel types which will be used as part of operations and maintenance activities are shown in Table 25.7.3, in addition to maximum numbers of annual movements.

Table 25.7.3: Estimated Maximum Vessel Movements per Year (O&M)

Vessel Type	Number of Vessels	Number of Annual Return Trips
Crew Transfer Vessel / Workboats	10	1225
Jack-up Vessels	3	9
Cable repair vessels	3	6
Service operations vessels - SOV	3	40
SOV daughter craft	4	8
Survey vessels	3	21
Excavators or backhoe dredger	4	50
Helicopters	2	485

5.3 Decommissioning Phase

Vessel movements per year during the decommissioning phase will closely resemble those during construction in terms of vessel type and numbers (see Section 5.1).

6 Project Vessel Routeing

Requirements for site vessels to comply with COLREGS (IMO, 1972) shall remain the key navigational priority at all times. All vessels shall passage plan as per the International Regulations for the Safety of Life at Sea (SOLAS) (IMO, 1974).

While there may be typical routing patterns used by project vessels, deviations from those routes may arise for a variety of reasons at the discretion of the vessel's Master, for example due to:

- Compliance with COLREGS (IMO, 1972) or SOLAS (IMO, 1974);
- Prevailing weather, tidal or sea state conditions;
- Navigational hazards as indicated on charts or notified through NtM or other such sources;
- Due to the vessel originating from or being bound for a destination not indicated by the transit routes;
- Advice from the MCC or other responsible persons in charge of coordinating and managing construction vessel traffic; and
- Such other reasons as the Master of a vessel may deem relevant for the purposes of ensuring the safety of his vessel or another vessel.

7 Anchoring

7.1 Anchorage Areas

7.1.1 Project Vessel Anchoring

Anchoring is at the discretion of the vessel Master but can be in conjunction with the information provided by the MCC or port authorities where relevant. However, standard marine practice requires that when a vessel proceeds to anchor, consideration is given to:

- Water depth;
- Seabed type and charted hazards including cables / pipelines;
- Weather and tidal information including current and predicted weather;
- Avoidance of prohibited anchorage areas;
- Consideration of other anchored vessels;
- Avoidance of known areas of other marine activity such as fishing or recreational boating; and
- Avoidance of main commercial routes, pilot boarding area or other navigational features such as spoil grounds or subsea cables.

All vessels associated with the Proposed Development will take the above into consideration prior to anchoring as per standard marine practice. Construction and Operation and Maintenance and Decommissioning vessels requiring anchorage within the Proposed Development will request permission to do so from the MCC.

7.1.2 Summary of NRA Findings

The NRA includes assessment of charted anchorage areas and preferred anchorages. There are no charted anchorage areas within 10 nm (i.e., the NRA study area), however a preferred anchorage is located approximately 10 nm to the south off Pollduff. Assessment of AIS data undertaken in the NRA shows that anchoring activity also occurs off Wicklow, and to a lesser extent Arklow. Further afield, there are preferred anchorages at North Bay, Sorrento Point, Scotsman's Bay, and Wexford. There is also a charted anchorage associated with Dublin Port in Dublin Bay.

These areas are shown in Figure 25.7.1 It is noted that these are not necessarily areas that project vessels will use for anchoring, and the factors listed in Section 7.1.1 will be considered by every project vessel prior to planned anchoring.

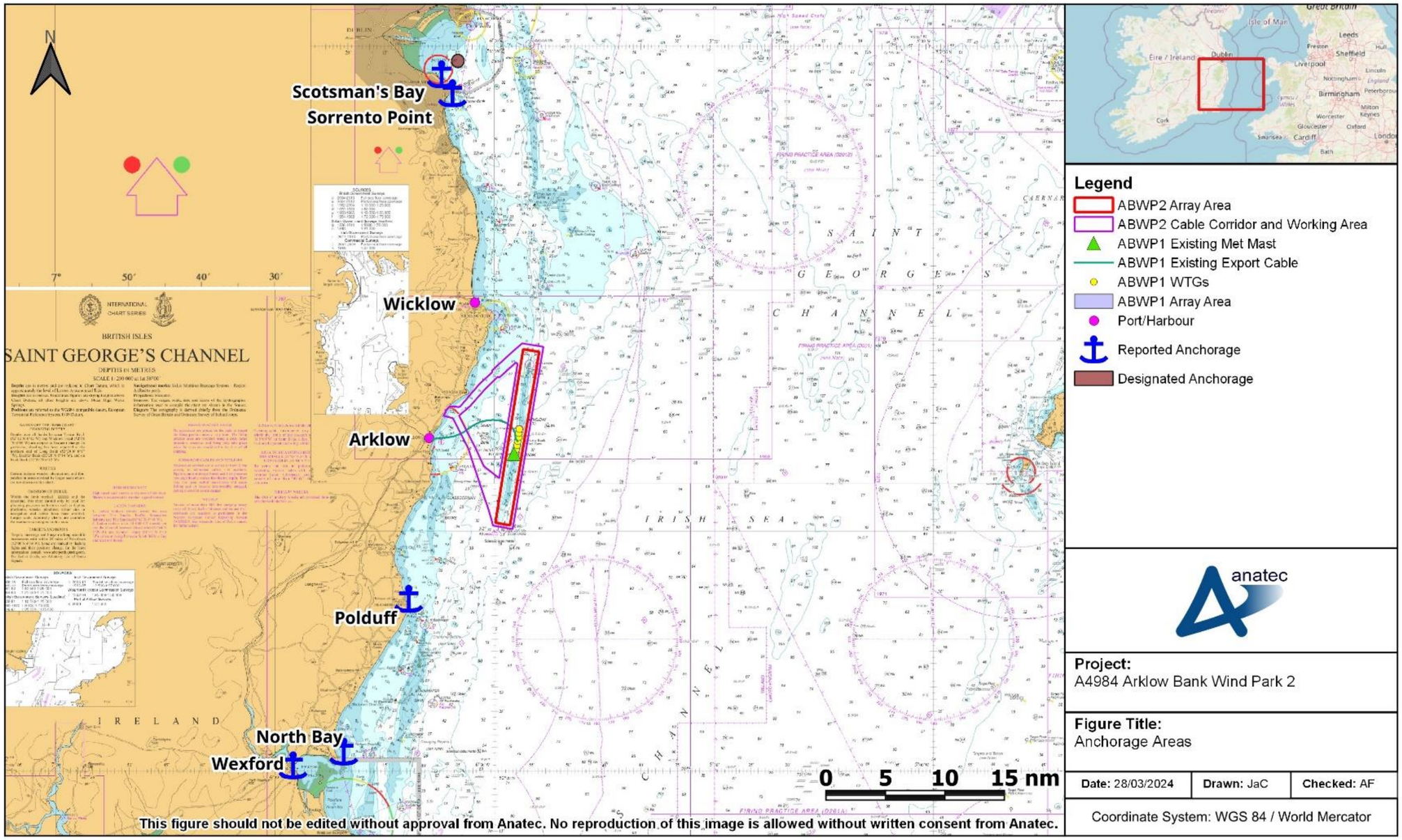


Figure 25.7.1 Anchorage Areas

7.1.3 Areas to avoid when Anchoring

There is no charted information to indicate that anchoring is prohibited in any areas within the vicinity of the Proposed Development. The closest such area identified is at Rosslare Europort, in excess of 25 nm to the south. Project vessels will not use any such area for anchoring, noting that the factors listed in Section 7.1.1 will also all be considered.

8 References

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