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MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Annex 3.1 to Hearing Action Points 4, 5 and 6: Shipping and Navigation

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Image of an offshore wind farm

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Morgan Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, scour protection, cable protection and offshore substation platforms (OSPs) forming part of the Morgan Offshore Wind Project: Generation Assets will be located.
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).
PIANC	The World Association for Waterborne Transport Infrastructure
The Planning Inspectorate	The agency responsible for operating the planning process for applications for development consent under the Planning Act 2008.

Acronyms

Acronym	Description
ALARP	As Low As Reasonable Practicable
COLREGs	International Regulations for Preventing Collisions at Sea
CRNRA	Cumulative Regional Navigational Risk Assessment
DCO	Development Consent Order
dML	Deemed Marine Licence
EEZ	Exclusive Economic Zone
HMCG	HM Coastguard
IALA	International Association of Lighthouse Authorities
IMO	International Maritime Organisation
IoMSPC	Isle of Man Steam Packet Company
ISH2	Issue Specific Hearing 2
MARPOL	International Convention for Prevention of Pollution from Ships
MCA	Maritime and Coastguard Agency
MLC	International Labour Organization’s Maritime Labour Convention
MMO	Marine Management Organisation
MNEF	Marine Navigation Engagement Forum
NRA	Navigational Risk Assessment
OREI	Offshore Renewable Energy installations
OSPs	Offshore Substation platforms
SOLAS	International Convention for the Safety of Life at Sea Convention

Acronym	Description
STCW	International Convention on Standards of Training, Certification and Watch-keeping for Seafarers
UK	United Kingdom
UNCLOS	United Nations Convention on the Law of the Sea
CTMP	Vessel Traffic Management Plan

Units

Unit	Description
m	Metres
nm	Nautical miles

1 Appendix to Response to Hearing Action Points: Shipping and Navigation (4, 5 and 6)

1.1 Introduction

1.1.1.1 This document has been prepared in response to Action Points 4, 5 and 6 arising from the Issue Specific Hearing 2 (ISH2) which was held on 26 to 27 November 2024 in respect of the Morgan Offshore Wind Project: Generation Assets (hereafter Morgan Generation Assets).

1.1.1.2 Morgan Offshore Wind Ltd. ('the Applicant') has considered each of these Action Points.

1.1.1.3 Action Points 4, 5 and 6 are set out in the document ISH2 – 26 & 27 November 2024 – Action Points (EV5-014) and requires:

1.1.1.4 4: Submit a detailed study of the use of sea space adjacent to the Isle of Man and United Kingdom Exclusive Economic Zone territorial sea boundary, indicating:

- *a. any constraints to navigation features and any aids to navigation present or proposed plus any temporary safety zones likely to be applied for construction and major maintenance adjacent to the territorial boundary;*
- *b. prudent clearing distances for vessels passing the Proposed Development in each direction including any north-south passage, in normal metocean conditions; and*
- *c. the same information for reasonable worst case adverse metocean conditions in which prudent mariners would be making passage*

1.1.1.5 5: Submit a report on the Applicant's participation in the Mooir Vannin NRA workshop planned for December and on any other engagement undertaken with Mooir Vannin OWF on navigation risk control.

1.1.1.6 6: Submit a paper providing:

- *a. consideration of policy and transboundary jurisdictional matters concerning post-consent control (should development consent be forthcoming) of navigational safety risk in the sea space between and adjacent to the two developments; and*
- *b. without prejudice draft wording for a Development Consent Order (DCO) requirement and Deemed Marine Licences (DML) condition to exclude structures to reduce navigational safety risk to tolerable and ALARP, such requirement only to take effect in the contingency that a Mooir Vannin OWF consent, if made, precedes a decision on the application for the Proposed Development; and*
- *c. consideration whether the draft DCO and DMLs should be amended such that no safety zone for construction or major maintenance shall cross the territorial seas boundary.*

1.2 Response to Action Point 4 – Detailed study of use of sea space adjacent to the Isle of Man and UK EEZ territorial sea boundary

1.2.1 Part A: Constraints, Navigation Features and Aids to Navigation

1.2.1.1 The English waters adjacent to the Morgan Array Area and Isle of Man territorial sea are generally free of navigational constraints as described in Section 1.5 of the NRA (APP-060). Existing navigational features and their proximity to the Morgan Array Area are detailed below and presented in Figure 1:

- Water depths in the vicinity of the Morgan Array Area are between 25 m and 40 m and therefore not a constraint on deep draught vessels
- The closest existing aids to navigation are fixed on the Walney Extension offshore wind farm which is more than 4.0 nm from the Morgan Array Area
- The Isle of Man Douglas Harbour Area is approximately 10.0 nm to the northwest of the Morgan Array Area
- Two submarine cables between the Isle of Man and England pass to the northwest of the Morgan Array Area (as shown within the chart area on Figure 1)
- The Millom West platform located between the Morgan Array Area and Walney wind farms, is located 1.57 nm from the Morgan Array Area. This platform is due to be decommissioned in 2030
- With the exception of the Walney offshore wind farms and Millom West platform, there are no other marine developments such as oil and gas, offshore wind or aggregate areas
- Whilst there is a boundary between the Isle of Man territorial sea and UK EEZ, this does not present any material impact on navigation (see response to ISH2 Action Point 6).

1.2.1.2 As described within the CRNRA Appendix D (APP-060), the key routes crossing the boundary between the UK EEZ and Isle of Man territorial waters immediately north of the Morgan Array Area are anticipated to be:

- The Isle of Man Steam Packet Company (IoMSPC) route in typical weather conditions between Heysham (England) and Douglas (IoM) (four crossings per day).
- Silver River cargo vessel (approximately 45 m in length) route between Ramsey (IoM) and Glasson (England) (one crossing every other day).
- Stena Line route in adverse weather between Heysham (England) and Belfast (Northern Ireland), taking a route passing east of the Isle of Man and having passed south of the Morgan Array Area (between two and four transits a month).
- Stena Line route in adverse weather between Liverpool (England) and Belfast (Northern Ireland), having passed south of the Morgan Array Area and taking a route to pass east of the Isle of Man.
- Cargo/tanker vessel routes between southern Irish Sea and Solway Firth (less than two a week).
- Other small craft movements such as recreational cruising, fishing boats and tug and service craft.

1.2.1.3 During the construction of the Morgan Array Area the following additional features will be added:

- Construction buoyage surrounding the area under construction, located within the Morgan Array Area Order Limits. The specifics of the construction buoyage are to be agreed with Trinity House in line with the Aids to Navigation Management Plan as per Schedule 3 and 4 Condition 16 of the draft DCO (REP4-013).
- 500 m safety zones surrounding structures under construction or major maintenance as set out in the Safety Zone Statement (APP-106) and Commitments Register (REP4-025). Safety zones may extend outside of the Morgan Array Area Order Limits.

1.2.1.4 Figure 2 shows the maximum possible extent of safety zones from the Morgan Array Area Order Limits. All wind turbine infrastructure for the Morgan Generation Assets will be set back from the Order Limits to account for blade oversail. A 125 m setback was utilised to represent the oversail distance of the smallest wind turbine size within the project design envelope. The 500 m safety zone shown in Figure 2 has been measured from this set back point, which is the closest a wind turbine tower could be constructed to the Order Limits. This represents the maximum projection of safety zones from the Morgan Array Area Order Limits which equates to a distance of 375 m. With a 50 m setback from the Isle of Man territorial seas limit, this would result in a potential maximum overlap of a safety zone into Isle of Man waters of 325 m. Further comment on safety zones and the jurisdictional aspects of them are set out in response to Action Point 6 below.

1.2.1.5 The Applicant notes that the Mooir Vannin offshore windfarm is proposed in Isle of Man waters but that no information is currently available on the likely aids to navigation or safety zones proposed as part of that development.

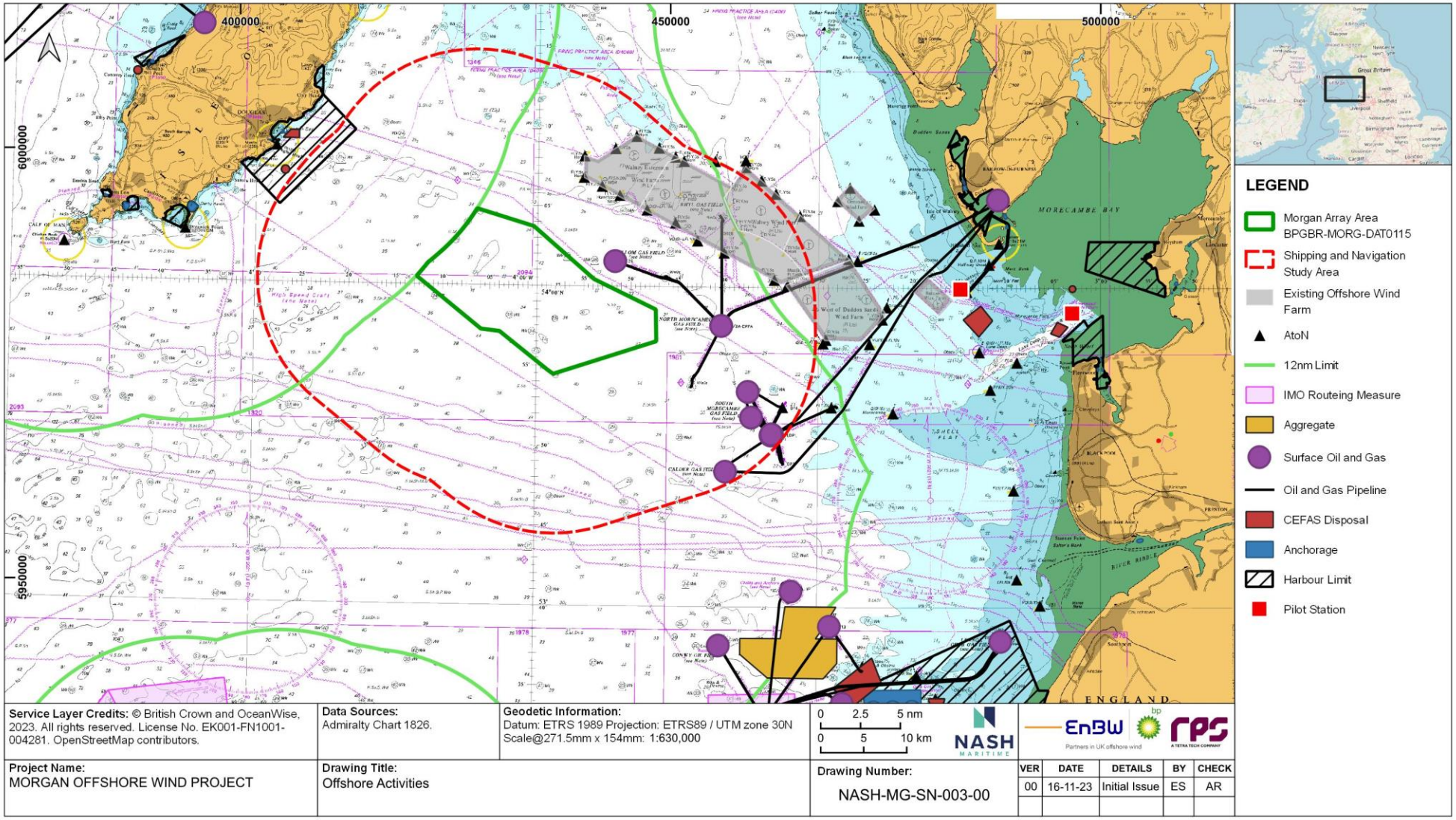

Figure 1: Navigation features adjacent to the Morgan Array Area (Figure 1.5 of NRA APP-060).

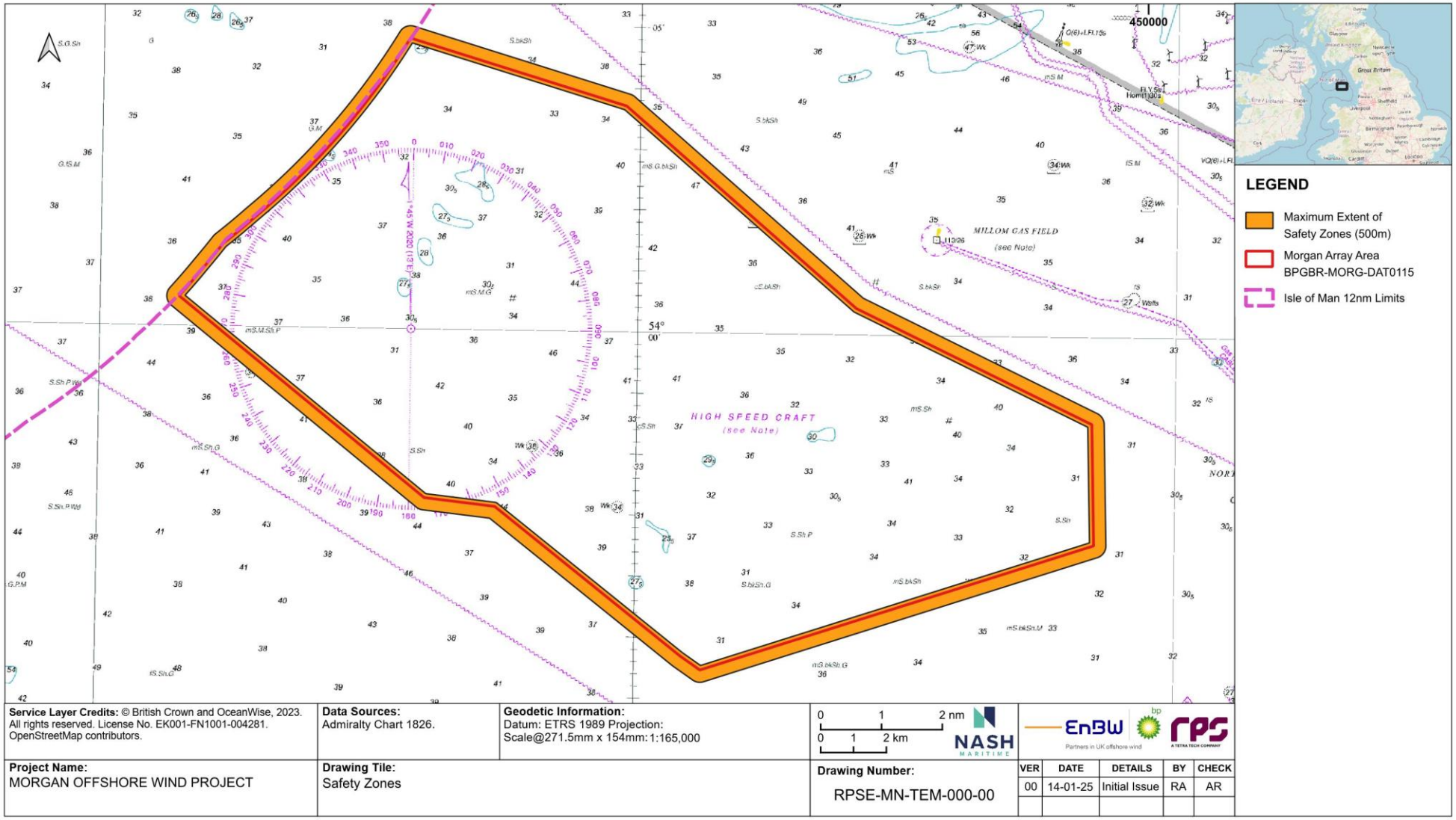

Figure 2: Maximum extent of 500m safety zones for construction or major maintenance.

1.2.2 Part B and C: Prudent Clearing Distances in Typical and Adverse Weather

1.2.2.1 The impact of the Morgan Generation Assets on vessel routeing in typical and adverse weather conditions is considered within Section 1.8.3 of the NRA (APP-060).

1.2.2.2 Whilst it is recognised that the passing distances of vessels from offshore wind farms varies based on a variety of factors, including weather, traffic conditions, visibility and vessel characteristics, the NRA utilised the following two key assumptions:

- Existing passage plans will be amended by operators to pass 1.5 nm from an offshore wind farm boundary, or through the centre of any route between two adjacent offshore wind farms. This was based on feedback obtained from the operators during consultation as part of the NRA.
- Large commercial vessels would not normally navigate within 1.0 nm of an offshore wind farm boundary. This was based on analysis of historical vessel traffic data undertaken by the Applicant. This is further supported by the shipping route template in Annex 2 of MGN654 which indicates a passing distance of greater than 1.0 nm is Medium Risk – Tolerable if ALARP.

1.2.2.3 It should be recognised that vessels do routinely pass closer to offshore wind farms than these two aforementioned distances when conditions or circumstances allow and this is reflected in analysis across the UK. Within the Irish Sea, the following two examples are highlighted:

- The IoMSPC route Heysham and Douglas passes south of the West of Duddon Sands offshore wind farm. The centreline of this route, and therefore with half of vessels passing closer, is 0.9 nm from the offshore wind farm boundary and several transits are noted within 0.5 nm.
- The Stena Line route between Heysham and Douglas passes between the West of Duddon Sands and Barrow offshore wind farms. The centreline of this route, and therefore with half of vessels passing closer, is 0.7 nm from the Barrow offshore wind farm boundary and several transits are noted within 0.5 nm.

1.2.2.4 Therefore, in assessing safety of navigation, the NRA has taken account of more conservative passing distances than is typically the case in the Irish Sea.

1.2.2.5 In adverse weather, it might be expected that vessels would pass further from an obstruction that is downwind (lee). It is assumed that a 1.5 nm minimum passing distance upwind of an offshore wind farm might be prudent in such circumstances. However, such decisions will be to the Master's discretion taking into account all constraints of that passage.

1.2.2.6 Figure 3 and Figure 4 below reproduce the resulting passage plans from the NRA which were developed based on these principles.

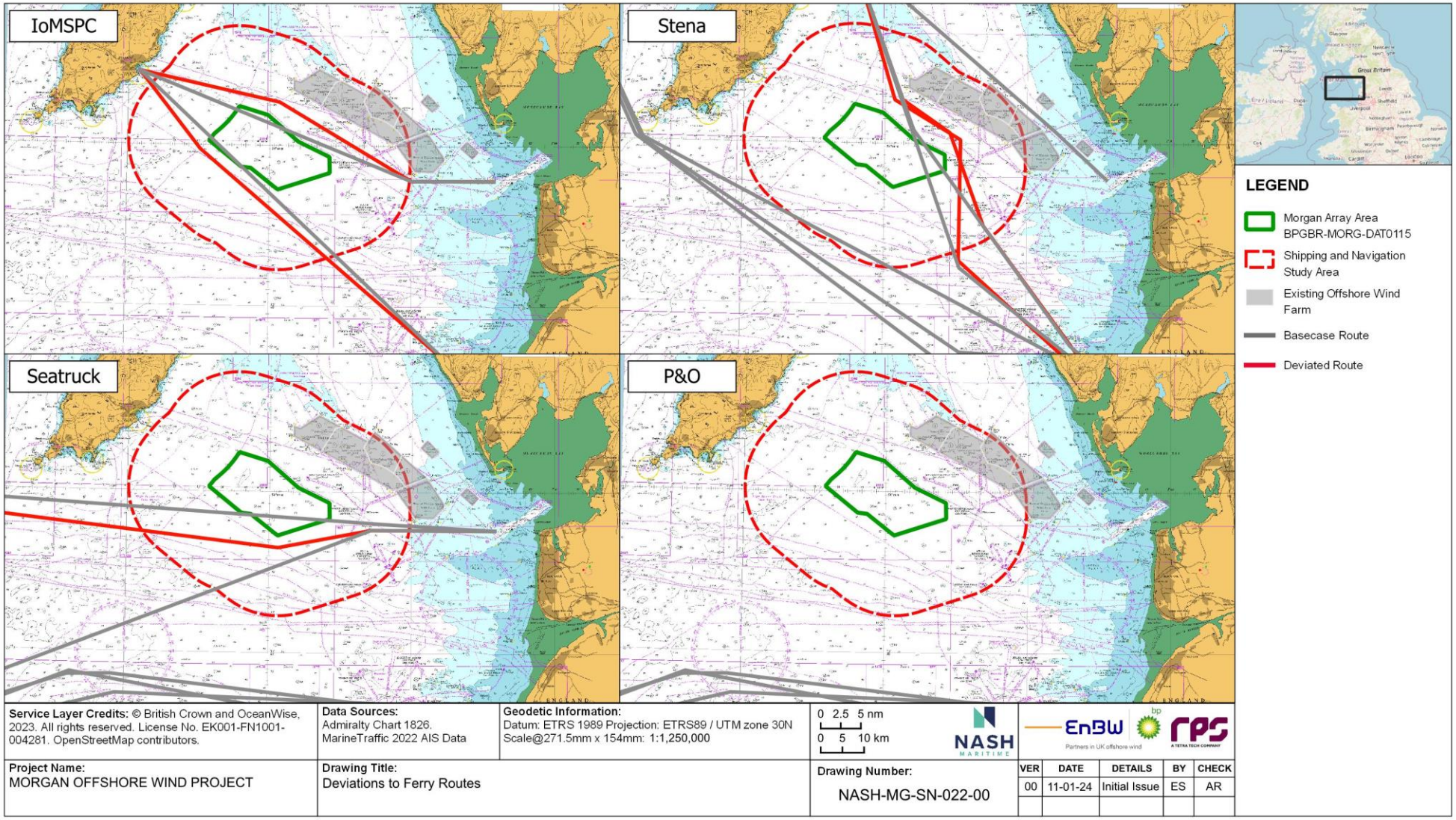

Figure 3: Deviations to ferry routes in normal conditions (Figure 1.38 of NRA APP-060).

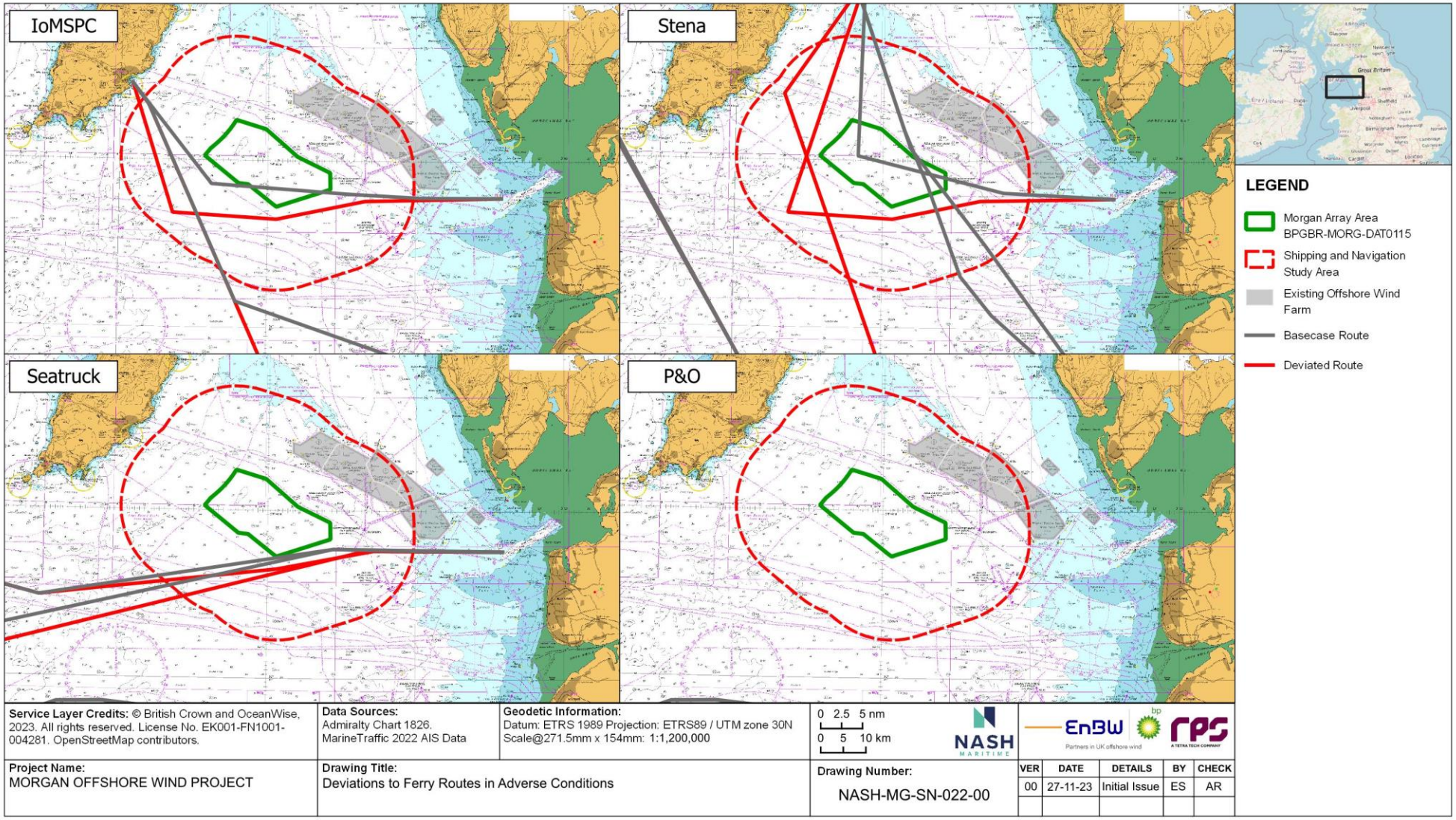

Figure 4: Deviations to ferry routes in adverse weather (Figure 1.39 of NRA APP-060).

1.3 Response to Action Point 5 – Report on Mooir Vannin hazard workshop

1.3.1.1 The Applicant attended the hazard workshop for the Mooir Vannin Offshore Wind Farm in Douglas on the 12 December 2024 hosted by the developer of that project and their consultants. The hazard workshop was attended by representatives from IoMSPC, IoM Government, IoM Coastguard, MCA, Chamber of Shipping and Northern Lighthouse Board.

1.3.1.2 The Applicant attended as an observer and did not actively contribute to any of the discussions. No pre-read material was provided to the Applicant prior to the workshop. The following key points are noted:

- A separate focus group with Mooir Vannin Offshore Wind Farm Limited and the ferry operators was undertaken in the morning, prior to the hazard workshop and without the Applicant in attendance
- A revised boundary was shared (Figure 5) which featured:
  - The refinement of the Mooir Vannin southern boundary which resulted in a 4.1 nm offset from the Morgan Array Area and 4.8 nm from the Walney Extension Offshore Wind Farm
  - The refinement of the northwest corner of the Mooir Vannin boundary to increase the separation distance to 2.1 nm between the Mooir Vannin boundary and Bahama Bank and allow access to the Isle of Man from the north
  - A shapefile of the revised Mooir Vannin boundary was shared by Mooir Vannin Offshore Wind Limited to the Applicant on the 19 December 2024.
- Discussions were held on the role of Emergency Towage Vessels and a Traffic Separation Scheme as additional risk controls for the Mooir Vannin project, but no consensus was reached
- Mooir Vannin Offshore Wind Farm Limited stated that they are investigating how Safety Zones could be implemented in Isle of Man waters, noting that the Isle of Man has no legislation in place to enact Safety Zones
- No scoring of hazards was undertaken within the workshop and therefore it was not clear whether stakeholders were satisfied that risks had been reduced to Tolerable levels either for Mooir Vannin in isolation or cumulatively with the Morgan Generation Assets.

1.3.1.3 The Applicant understands that Mooir Vannin Offshore Wind Farm Limited will use the discussions at the workshop to prepare a draft hazard log for comment with stakeholders and then update their NRA for submission with their consent application.

1.3.1.4 Following the Mooir Vannin hazard workshop, the Applicant has commenced the following activities to consider the effect this change has on navigational safety:

- Undertaken a review of the revised boundary and comparison with existing guidance and precedent. The Applicant notes that a 4.1 nm separation is similar to the separation between the Morgan Array Area and Walney offshore wind farms where consensus with stakeholders confirmed the risks were Tolerable and ALARP. Furthermore, 4.1 nm meets the guidance of MGN654 and PIANC with highly conservative assumptions on vessel size and numbers (APP-060).

- Is undertaking analysis and modelling of likely meeting situations between vessels when passing between the Morgan Array Area and Mooir Vannin Offshore Wind Farm.
- Is undertaking full bridge navigation simulations and a hazard review on the 20 – 21 January 2025 with attendance confirmed by the Isle of Man Steam Packet Company, Stena Line, UK Chamber of Shipping and Maritime and Coastguard Agency.
- Will update the risk assessment submitted as part of the CRNRA Appendix D (APP-060) that includes the Mooir Vannin Offshore Wind Farm.

1.3.1.5 The Applicant will provide a summary of the findings, and extent of agreement with stakeholders, to the Examining Authority in Issue Specific Hearing 3 on 12 February 2025. The Applicant will also provide a written position on this at Deadline 6 on the 27 February 2025, supported where possible by updated Statements of Common Ground with affected stakeholders.

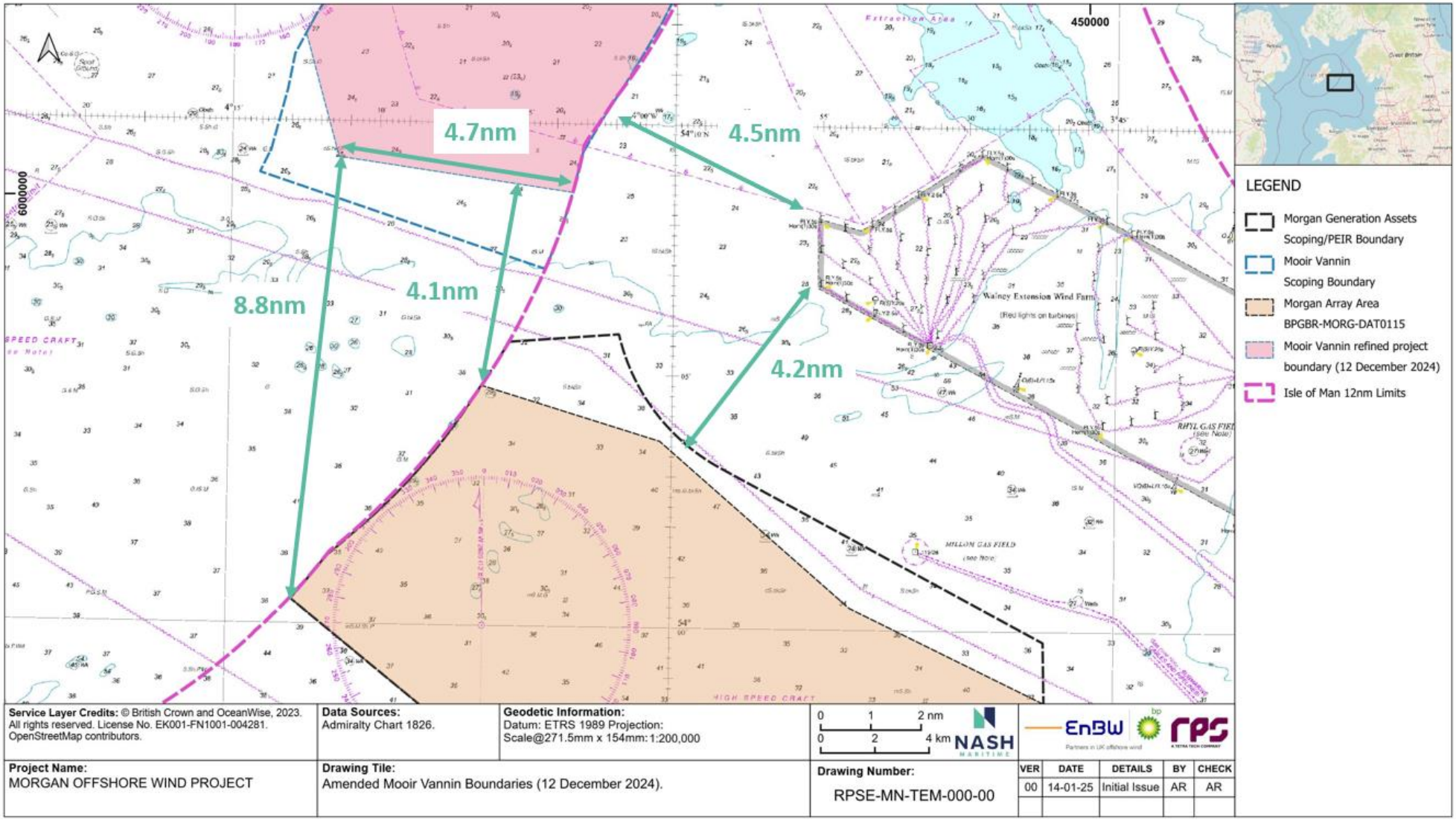

Figure 5: Amendments to southern boundary of Mooir Vannin Array Area (shared 12-December 2024).

1.4 Response to Action Point 6 – Paper considering post consent control, draft DCO requirement wording and safety zones

1.4.1 Part A: Post-consent Transboundary Jurisdictional Matters

1.4.1.1 The Applicant notes that the Maritime and Coastguard Agency (MCA), as an Executive Agency of the Department for Transport, are responsible for the safety of navigation, pollution response and search and rescue within the United Kingdom's Exclusive Economic Zone (EEZ). These powers and duties stem primarily from the functions of the Secretary of State under the Merchant Shipping Act 1995 and a wide range of secondary legislation, much of which implements international maritime conventions. The Merchant Shipping Act 1995 also imposes a range of duties and standards on mariners with respect to safety, and sets out various offences that will be committed if such a duty is breached.

1.4.1.2 The Applicant notes that the Isle of Man Department of Infrastructure, through the Harbours Act 2010, has equivalent responsibility in Isle of Man waters and manages its own coastguard.

1.4.1.3 The Applicant also notes that there are extensive international conventions which are applicable to all shipping irrespective of which jurisdiction they navigate. These include:

- United Nations Convention on the Law of the Sea (UNCLOS) (1982)
- International Maritime Organization's (IMO):
  - International Regulations for Preventing Collisions at Sea (COLREGs) (1972)
  - International Convention for Prevention of Pollution from Ships (MARPOL) (1973)
  - International Convention for the Safety of Life at Sea Convention (SOLAS) (1974)
  - International Convention on Standards of training, certification and watch-keeping for Seafarers (STCW) (1978).
- International Labour Organization's Maritime Labour Convention (MLC) (2006)

1.4.1.4 These will all form part of the inherent risk controls in the management of navigational safety risk in the sea space between, and adjacent, to the two developments (Morgan Offshore Wind Project and Mooir Vannin Offshore Wind Farm).

1.4.1.5 The Morgan Generation Assets proposes several post-consent monitoring and mitigations to address shipping and navigation concerns which do not have inherent jurisdictional conflicts:

- **Aids to Navigation Management Plan (secured by condition 20(1)(f) of each deemed marine licence (dML) within the draft DCO)**: Trinity House are the General Lighthouse Authority in English waters and therefore Trinity House alone will have oversight of Aids to Navigation installed within the Morgan Array Area.

  The Northern Lighthouse Board are the General Lighthouse Authority for the Isle of Man but as no Morgan Generation Assets structures will be located within Isle of Man waters there is no jurisdictional remit. Both Trinity House and the Northern Lighthouse Board collaborate on cross-jurisdictional matters and are members of the International Association of Lighthouse Authorities (IALA).

- **Vessel Traffic Management Plan (VTMP) (secured by condition 20(1)(h) of each dML)**: The Marine Management Organisation (MMO) in consultation with the MCA would approve the VTMP to manage Morgan Generation Assets' vessel movements and minimise risk and operational impact to other marine users. It is anticipated that the MCA would have due regard to the impacts on marine users both in English and Isle of Man waters.
- **Navigation Monitoring Strategy (secured as part of the VTMP)**: The Applicant confirms that navigation monitoring will include analysis of the impacts on vessel traffic in Isle of Man and English waters. It is anticipated that the MCA, in reviewing construction and post-construction monitoring, will consider the impacts on routes within both Isle of Man and English waters.
- **Marine Navigation Engagement Forum (MNEF)**: The MNEF is inherently cross-jurisdictional and includes stakeholders and regulators from both the UK and Isle of Man.
- **Emergency Response and Cooperation Plan**: The MCA, and HM Coastguard (HMCG) specifically, have responsibility for search and rescue in UK waters which includes the Morgan Array Area. Furthermore, whilst the Isle of Man does have its own coastguard, by agreement, HMCG provides all offshore search and rescue co-ordination for Manx territorial waters with advice from Isle of Man Coastguard and the Isle of Man Marine Operations Centre which operates 24/7 from the Sea Terminal building in Douglas.

  The Isle of Man Coastguard is part of the Ports Division of the Department of Infrastructure and is responsible for the provision of search and rescue teams to deal with coastal incidents and, increasingly, inland incidents. Therefore, any search and rescue incident occurring between the Morgan Array Area and Mooir Vannin Offshore Wind Farm will be coordinated by HMCG.

  No part of the Morgan Generation Assets can commence until the MMO, in consultation with the MCA, have confirmed that the Applicant has taken into account and addressed all MCA recommendations as appropriate to the authorised scheme contained within MGN654 "Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues" (secured by condition 25 of each dML).

1.4.1.6 For each of the measures secured via a condition in the deemed marine licences, the MMO would have powers of enforcement under chapter 3 of the Marine and Coastal Access Act 2009. The MMO therefore also has a role and responsibility, as marine regulator, for compliance with specific mitigation measures related to shipping and navigation. The MMO has the power to enforce compliance with the approved plan as a whole, irrespective of the fact that it applies across jurisdictional boundaries.

1.4.2 Part B: Without Prejudice DCO Requirements for Navigational Safety

1.4.2.1 Noting the amendments to the Mooir Vannin Offshore Wind Project array area set out in the Applicant's response to Action Point 5, the Applicant does not consider that such a provision is warranted at this stage subject to the findings of its own further assessment as described in the Applicant's response to Action Point 5 above.

1.4.3 Part C: Safety Zones Cross Territorial Seas Boundary

Legal context

English Waters

1.4.3.1 The Energy Act (the "2004 Act") makes provision for the designation of 'safety zones' around renewable energy installations for certain purposes within UK waters. A safety zone can be declared for the purpose of securing the safety of:

- A renewable energy installation during its operation, or during its construction, extension or decommissioning,
- other installations in the vicinity of the installation or the place where it is to be constructed or extended,
- individuals in or on the installation or other installations in that vicinity, or
- vessels in that vicinity or individuals on such vessels.

1.4.3.2 The notice declaring a safety zone must set out what renewable energy installation it relates to and the date that it comes into force. The notice may also set out (a) if the area of the safety zone will vary from time to time, (b) prohibitions of specific activities in the safety zone, (c) procedures for permission to be granted to vessels to use the area, notwithstanding the safety zone designation, or (d) discretions from the safety zone for certain persons or activities.

1.4.3.3 Section 95(10) of the 2004 Act sets out that safety zones can be designated either in (a) waters in or adjacent to Great Britain which are between the mean low water mark and the seaward limits of the territorial sea; and (b) waters within a Renewable Energy Zone. The relevant Renewable Energy Zone extends to the boundary of English waters and does not include the Isle of Man Territorial Sea.

1.4.3.4 Whilst a safety zone is in place, by default all vessels will be prohibited from entering the safety zone except where they are granted permission to do so (in accordance with the provisions of the notice). Conditions may be attached to any grant of permission. There are a number of exceptions to this for government agencies, or where certain vessel safety concerns apply (e.g. entering the safety zone owing to stress of weather or when in distress) (as detailed within Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007).

1.4.3.5 Section 96(1) of the Energy Act 2004 provides that a vessel is not to enter or remain in a safety zone except where it is permitted to do so. Where a vessel enters or remains in a safety zone in contravention of this provision, the vessel's owner and her master are each guilty of a criminal offence. Breaching a condition of any permission granted to a vessel to enter a safety zone will also be a criminal offence (see section 97 of the 2004 Act).

Isle of Man waters

1.4.3.6 The Applicant is not aware of any legislation that has been enacted in the Isle of Man waters that would allow designation of safety zones around renewable energy installations. The Scoping Opinion issued for Mooir Vannin Wind Farm [REP3-042] confirmed that the Isle of Man Department of Infrastructure was considering the issue (see pages 70 and 71).

Approach of Morgan Generation Assets

1.4.3.7 As set out above, the jurisdiction under the 2004 Act to designated safety zones does not extend into Isle of Man waters. There therefore is no need for the draft DCO or DMLs to make any specific provision restricting the imposition of safety zones across the territorial sea boundary.

1.4.3.8 As set out in the Safety Zone Statement [APP-106] the intention of the Applicant is to apply for 500 m safety zones for wind turbines and Offshore Substation Platforms (OSPs) during their construction and during any major maintenance. The legal restrictions (and associated offences for breach) imposed by the 2004 Act would only apply in English waters.

1.4.3.9 That would not restrict the Applicant from including an advisory safety buffer that extends into Isle of Man waters. The Applicant considers this could be included in Notice to Mariners issued to the Isle of Man, such that vessels navigating adjacent to the Morgan Array Area in Isle of Man waters do so with sufficient clearance to mitigate any risk. The Applicant considers this to be a similar approach to that proposed for vessels installing inter-array cables and interconnector cables, where a formal safety zone cannot be applied for (see paragraph 1.2.1.6 of the Safety Zone Statement).

1.4.3.10 A safety zone application needs to include details of how it will be monitored, which in practice will often be undertaken through use if guard vessels or via a company providing marine coordination services.

1.4.3.11 The Applicant considers that the designation of safety zones for turbines closest to the boundary of Isle of Man waters, and any advisory safety zone within Isle of Man waters, should not be a concern from a shipping and navigation perspective for several reasons:

- The construction of Morgan Generation Assets is scheduled to take place in advance of Mooir Vannin Offshore Wind Farm. Any 500 m safety zone imposed during that time would therefore not decrease any ‘gap’ between the wind farms.
- Major maintenance activities (the other instance where a 500 m safety zone may be applied for) throughout the lifetime of the wind farm will be rare and will be planned such that all relevant stakeholders can be notified and made aware that it is in place.
- Measures such as use of guard vessels can be agreed to be deployed as part of its designation.
- A safety zone is not, in any event, a ‘hard restriction’ and there are a range of exceptions and permissions that can be given to come within its extent.
- In the context of this area of the Irish Sea (as summarised in paragraph section 1.2,1 above) the limited restrictions that they do impose will not result in a material further restriction of an already congested and busy area. That is particularly the case having regard to the revised Mooir Vannin proposed boundary, that will increase the separation distance between the wind farms.