

Mona PEIR Submission

Stena Line Response

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1. EXECUTIVE SUMMARY

1.1 This document constitutes Stena Line's response to the Planning Environmental Information Reports ("**PEIRs**") for the Mona Offshore Wind Project (the "**Project**").

1.2 Attachments have been added to this submission as supporting annexes and should be considered part of it.

1.3 Stena Line is submitting this response alongside its responses to the PEIRs for the Morgan Offshore Wind Project Generation Assets and Morecambe Offshore Windfarm Generation Assets. Given that the consultations have to a great extent been conducted jointly between the Mona, Morgan and Morecambe Projects (collectively, the "**Wind Farms**") and that Stena Line's main concerns apply equally to all PEIRs, there will be a level of duplication across Stena Line's responses. However, each response is Project specific and highlights Stena Line's concerns regarding the impact on Stena Line's operations arising from that Project.

1.4 Stena Line's main concern throughout the consultation period has been and still is the risks to navigational safety for its vessels, as well as other vessels operating in the array areas of the Wind Farms. The focus Stena Line's response has therefore been on the Shipping and Navigation Chapters of the PEIRs. Additional comments are made in respect of onshore impact arising from the cumulative effects of the Wind Farms.

1.5 Terms used

- (a) "**COLREGs**" means the IMO Collision Regulations as currently in force.
- (b) "**Project Consortia**" means collectively the Project Consortia for the Mona, Morgan and Morecambe Wind Farms, namely EnBW / BP and Cobra / Flotation Energy.
- (c) "**MGN 654**" means Marine Guidance Note 654.
- (d) "**Mona**" or the "**Project**" means the Mona Offshore Wind Project.
- (e) "**NRA**" means the Navigation Risk Assessment contained in Volume 6, Annex 12.1 of the Mona PEIR and prepared by EnBW / BP.

- (f) **"PEIR"** means Planning Environmental Information Report and generally refers to the PEIRs submitted by the Project Consortia in respect of the Mona, Morgan and Morecambe Wind Farms.
- (g) **"Wind Farms"** means collectively the Mona, Morgan and Morecambe Wind Farms proposed to be constructed in the Irish Sea.

2. INTRODUCTION

2.1 History of Stena Line

Stena Line was founded in Gothenburg, Sweden in 1962. Stena Line is one of the world's largest ferry operators with over 26,000 yearly sailings on routes across Scandinavia and the Baltic, Irish and North Seas.

2.2 Core values

Stena Line is a family-owned company and its core value is care; care for customers, care for resources and care for each other.

Stena Line aims to offer affordable and seamless ferry transportation for all customers and has a commitment to safety, reliability and reducing its environmental footprint. In 2022 over 63 percent of trips ran according to the timetable and Stena Line aims to increase punctuality to a minimum of 67 percent, this will in turn result in lower CO² emissions as the need to accelerate and use additional fuel to catch up with scheduled arrival times will decrease.

2.3 Employment

Stena Line employs over 5,900 employees from nearly 40 countries, with headquarters located in Gothenburg, Sweden. Stena Line's fleet contains 39 vessels which operate on 18 ferry routes between 10 countries, helping 7 million people reach their destination annually. In 2022 Stena Line had a SEK 17.6 billion annual turnover, which allows Stena Line to invest in more than 300 implemented energy saving projects.

In the UK, Stena Line's onshore operations employs around 745 people, and a further 1,193 people are employed onboard the vessels that operate on routes around the UK. Stena Line's Liverpool to Belfast and Heysham to Belfast routes are the key routes affected by the

Mona / Morgan / Morecambe Projects and 400 people are employed across these routes. Stena Line's total employees across the Liverpool to Belfast route totals 313. In respect of onshore operations, 90 people are employed by Stena Line at the Birkenhead Port, with a further 72 employed at Belfast Port. In terms of onboard personnel operating the route, 81 people are employed to work onboard the Stena Edda, including 57 international crew assigned to the vessel and 70 people are employed to work onboard the Stena Embla, including 58 international crew. In relation to the Heysham to Belfast route, a further 14 people are employed in onshore operations at Heysham Port. 39 people are employed to work onboard Stena Hibernia and another 39 are employed to work onboard Stena Scotia.

Accordingly, Stena Line have a duty to protect the health, safety, welfare and job security of their considerable work force, which they take very seriously.

2.4 **Infrastructure and vessel particulars**

The routes that Stena Line will address in this PEIR response operate from Liverpool, Heysham and Belfast. The Stena Line Liverpool terminal is located at 12 Quays Terminal in Birkenhead, the Stena Line Heysham terminal is located at the North Quay, Heysham and the Stena Line Belfast terminal is located at Victoria Terminal 2, Belfast.

A number of vessels operate the routes between Liverpool and Belfast and Heysham and Belfast. Stena Edda, Stena Embla and Stena Foreteller sail between Liverpool and Belfast and Stena Hibernia and Stena Scotia sail between Heysham and Belfast.

The passenger vessels operating between Liverpool and Belfast, Stena Edda and Stena Embla, are part of Stena Line's new E-Flexer class of vessel, which are optimised for efficiency and flexibility and are some of the most advanced and energy efficient vessels in operation. Stena Edda's particulars are: gross tonnage 40,500; year of build 2019. Stena Embla's particulars are: gross tonnage 40,500; year of build 2020. In terms of their capacity, each vessel can carry a maximum of 927 passengers, 120 vehicles and have a freight capacity of 3,100 lane metres. In terms of fuel consumption and costs, based on the current passage time of 8 hours, distance of the route of 142 nautical miles and fuel prices for March 2023, each trip for Stena Edda and Stena Embla averages over US\$13,000.

The Roll On Roll Off (Ro-Ro) Cargo Ship Stena Foreteller services Stena Line's freight operations on the route between Liverpool and Belfast. Stena Foreteller's particulars are:

gross tonnage 24688; year of build 2001. The freight capacity of Stena Foreteller is 3000 lane metres. Using the same passage information as above for the Liverpool and Belfast route, the total cost of each trip for Stena Foreteller is estimated to be around US\$10,710.

Stena Hibernia and Stena Scotia are the Ro-Ro Cargo Ships transporting freight between Heysham and Belfast. Stena Hibernia's particulars are: gross tonnage 13,017; year of build 1996. Stena Scotia's particulars are: gross tonnage 13,000; year of build 1996. Freight capacity of the Stena Hibernia is 1,710 metres and the Stena Scotia is 1,692 metres. Based on a calculation of the current passage time of 8 hours, distance of 123 nautical miles and fuel prices for March 2023, the total cost per trip for Stena Hibernia and Stena Scotia is averaged at US\$6,555.

Fuel is one of the major operating costs for all merchant vessels, and the Stena Line vessels are no exception. This cost item has been brought into sharper focus in recent years as fuel prices have rocketed over the past two decades (seeing only brief periods of decline linked to recession) and there has, understandably, been more attention on environmental protection. As elaborated on further below, even the slightest increase to a vessel's regular transit route can exponentially affect this operating expense annually. In Stena Line's case and for the PEIR under consideration, they have a total of 5 vessels potentially impacted.

2.5 **Lifeline service**

Stena Line is the only ferry operator to operate a direct passenger and RoRo freight route between Liverpool and Belfast. In doing so, Stena Line ensures essential passenger and freight traffic can serve as a link between the respective locations and is able to contribute to the local community and bolster employment in the region. Were Stena Line's operations to be curtailed on this route, there would be no ferry route alternatives, in turn affecting both freight and passenger traffic. This would significantly impact the infrastructure, trading and employment at each location.

3. **ROUTES**

3.1 **Liverpool and Belfast**

Stena Line operates 38 weekly sailings directly between Liverpool and Belfast on a twenty four hour schedule. The crossing time is approximately 8 hours. The Passenger Ro-Ros

Stena Edda and Stena Embla operate the route along with the Freight Ro-Ro Stena Foreteller. The new E-Flexer class vessels Stena Edda and Stena Embla, which were introduced in 2021, include several emission-reducing technologies such as a streamlined hull, new propellers and two engines instead of four. As well as reducing emissions, the new ferries have also increased passenger and freight capacity on the route by a third.

Significant investment in Stena Line's Irish Sea operations reflect Stena Line's commitment to the region - Stena Line has recently signed a new deal with Peel Ports to operate their 12 Quays port and ferry terminal in Birkenhead for another 77 years until 2100. Stena Line has since made further investments to the region with a recent purchase of two sites next to the terminal which will offer additional storage for its freight customers as business is expanded there.

3.2 **Heysham and Belfast**

The Stena Hibernia and Stena Scotia perform a dedicated freight service with 22 weekly crossings between Belfast and Heysham, the crossing time is approximately 8 hours.

Stena Line recently announced a multi-million pound investment to introduce another two freight ferries to the route in 2025, replacing the older vessels Stena Hibernia and Stena Scotia. The new vessels are set to increase freight capacity on the route by 80%, which will allow Stena Line to keep up with increased customer demand. In line with Stena Line's sustainability targets to reduce its CO² emissions by 30% by 2030, the NewMax vessels will be designed to run on methanol and will feature technology to operate on both battery propulsion and shore power where available.¹

4. **INITIATIVES**

Stena Line has been spearheading sustainable practice for many years. In 2015, Stena Line converted the Stena Germanica to run on both diesel and methanol, making it the world's first Roll-on Passenger (RoPax) vessel to do so.² Since then, Stena Line has developed the new E-Flexer class vessels and the NewMax vessels.

[Stena Line boosts freight capacity on Irish Sea with two all-new NewMax hybrid vessels – StenaLine.com](#)
[The world's first methanol ferry – StenaLine.com](#)

5. **GREEN ENERGY**

Stena Line supports the development of renewable energy in order to phase out reliance on fossil fuels and ensure the UK can align with the emission reduction targets set by the Paris Agreement.

Our sister company, Stena Renewable Energy AB is a terrestrial windfarm developer in Sweden with over 201 wind turbines in operation and another 200 under design or construction spread across 14 windfarm sites. Stena very much promotes the generation of green energy and strives to ensure that the sites selected for their development are always carefully assessed for local impact.

Stena Line has set a target to reduce CO² emissions from its vessels by 30% by 2030.

At present, 100% renewable electricity is used in Stena Line's shore operation (by purchasing green credits for three of its ports) and about 20% of all Stena Line terminals offer shore power connections to Stena Line vessels.

Stena Line is also investing in new green technologies including battery power, quayside powerbanks for charging electric ferries, alternative fuels (including methanol), utilising artificial intelligence in route planning and efficient ship designs.

The construction of the Wind Farms poses a concern to Stena Line's sustainability strategy insofar as Stena Line's vessels will be forced to deviate and take longer routes to safely transit around the Wind Farms' footprint. As noted above, this in turn will increase fuel consumption and consequently greenhouse gas emissions. In addition, the impact on Stena Line's route operations may make it more difficult to ensure compliance with international and regional emissions regulations (including the IMO's Energy Efficiency Existing Ship Index and Carbon Intensity Indicator regulations and the EU Emissions Trading System). Accordingly, the Wind Farms' green energy credentials need to be assessed in the round, and according to the impact it will have on Stena Line's, and numerous other stakeholders', own sustainability strategies.

6. HISTORY OF THE PROPOSAL

6.1 Stena Line's perspective on history of proposals and involvement to date

Stena Line has been partaking as a stakeholder since Q2 of 2021 and have liaised with Nash Maritime who represent Project Consortia.

Stena Line participated in Marine Navigation Engagement Forums (MNEFs) throughout 2022. After requests from Stena Line and other affected ferry operators (namely Isle of Man Steam Packet and Seatruck), Stena Line were also invited to carry out simulation exercises in August 2022. The Marine and Coastguard Agency also attended these simulation exercises.

In October 2022, Stena Line attended a two-day HAZID Workshop in Liverpool aimed at assessing various hazards identified in the simulation exercises.

In May 2023, further Navigation simulation exercises were carried out with Stena Line to assess the Project Consortia's proposed mitigations to the Navigation safety concerns identified at the previous simulations. These mitigations were in the form of a widening of the channels between the Windfarms and other offshore infrastructure. The joint HAZID Workshops resulting from this are still to take place to quantify their effectiveness. Due to this and the proximity in time between the simulations and the deadline for submitting the PEIR response, Stena Line's observations and comments regarding Navigational Safety are generally limited to the project boundaries as submitted in the PEIRs.

Stena Line's position is that although the forums and workshops have been helpful in identifying hazards and issues with the project footprint, two key issues should be noted from the PEIR and during the MNEFs to date:

- (1) The cumulative impact of Orsted's Isle of Man Offshore Wind Farm Project (the "**Orsted Project**");
- (2) Some delay in circulating the agreed revised reduction of the Project footprint and widening of the navigation corridor.

Stena Line understands from meetings with Orsted that they expect to submit their scoping report for the Isle of Man Offshore Wind Farm to the Isle of Man Government by Q4 2023.

While technically still a Tier 3 project, Orsted have indicated their intentions to Stena line and have engaged with the Project Consortia on 20 October 2022. Despite this, to Stena Line's knowledge the Project Consortia have not considered the impact of the Isle of Man Offshore Wind Farm on ferry operations from a Navigation Risk Assessment perspective. Stena Line has specifically requested that the Project Consortia include the Orsted project in the latest Navigation simulations held in May 2023. Despite this the Orsted Project has still not been included and Stena Line must therefore regard the NRA process as being incomplete due to the failure to assess an adjacent transboundary development. Stena Line strongly requests that there be open dialogue and cooperation between the Project Consortia and Orsted both in attending MNEFs and navigational risk assessments to ensure the cumulative effect on Stena Line and other ferry operators of the proposed wind farm projects are properly considered.

Revised footprints of the Projects were agreed by the Project Consortia in January 2023. However the revised boundaries and navigation corridor are not assessed in the PEIR but listed as 'next steps'. No adequate explanation for this approach is provided. Stena Line strongly encourages the Project Consortia to adopt the revisions and proceed with further assessments on this basis.

Stena Line's Liverpool to Belfast route is significantly affected by the proposed footprint of the Wind Farms. Stena Line has throughout the consultation period highlighted and requested proper assessment of the impacts of the Wind Farms on ferry routes and in particular the need for a cumulative assessment. Stena Line's primary concern is that of safety and how its' affected vessels will be able to navigate the affected areas safely, especially in adverse weather conditions.

7. **CONSULTATION DOCUMENTS**

7.1 **Stena Line's perspective on the consultation documents**

The PEIR and in particular the NRA states that the assessment has been prepared in accordance with Marine Guidance Note 654 concerning safety of navigation and emergency response caused by Offshore Renewable Energy Installations (OREI) ("**MGN 654**"). MGN 654 which requires "*stakeholder engagement to ensure that solutions are sought that allow offshore wind farms and navigation uses of the sea to successfully co-*

exist". On this basis, Stena Line's position is that navigational risk assessments and consultations should be carried out on the impact of all regularly used routes that traverse the Array Areas.

Stena Line notes that Chapter 12, section 12.8.2 of the Mona PEIR asserts that the only routes that are required to be assessed are "*recognised sea lanes*" within the meaning of UNCLOS Article 60, which, they say, is restricted to the defined traffic separation schemes. However, this interpretation contrasts with the National Policy Statement for Renewable Energy Infrastructure ("**NPS EN-3**"), which in section 3.8.346 clearly states that the Secretary of State will, when considering the Project site selection, consider particularly the need to avoid or minimise disruption or economic loss to shipping and navigation in "*approaches to ports and to strategic routes essential to regional, national and international trade, lifeline ferries and recreational users of the sea*".

Clearly, the restrictive interpretation adopted in the PEIR is not conducive to finding solutions and not within the ambit of MGN 654. Accordingly, Stena Line firmly disagrees with the interpretation adopted in the PEIR. Stena Line (and the other affected ferry operators) operate on established routes which must be considered as recognised sea lanes. Stena Line therefore stresses that MGN 654 needs to be considered in full and that all affected commercial routes should form part of the navigational risk assessments.

Stena Line further stresses that the Project Consortia need to continue with the process of risk mitigation in collaboration with all stakeholders as is identified in the forthcoming second round Hazard ID Workshop to ensure that navigational risks to current operations are reduced to ALARP levels. It should be further stressed that Stena Line will carry the risk once the Wind Farms are constructed and therefore Stena Line reserves the right to determine the level of risk which is acceptable. Stena Line appreciates that Ship Simulation exercises have been carried out but contends that while an exercise can be safely conducted in a simulator on a single transit that the exposure to risk is greatly increased by the frequency at which a vessel transits the area noting that Stena's vessels transited the area 2,997 times in 2019. Over the 35-year life of the Project that is nearly 105,000 transits.

8. PROPOSAL FOOTPRINT

8.1 Deviation necessary

- (a) Chapter 12, section 12.8.3.5 of the Mona PEIR assesses the impact on Stena Line's routes as follows:

"The Stena route between Liverpool and Belfast to the west of the Isle of Man with approximately 1,400 movements per year directly intersects the Mona Array Area. A revised passage plan was developed that passes to the east of the Mona Array Area, avoiding congestion within the TSS. Vessels would depart Liverpool as they currently do before heading more north northwest than at present, passing 1.5nm from the Hamilton North Gas Field and single buoy mooring, before turning to port 1.5nm from the northeast boundary of Mona in order to clear Chicken Rock on the Isle of Man at their existing waypoint. This would necessitate an additional 2.6nm/7.4 minutes of steaming time per trip."

- (b) Considering Figure 12.5 of the Mona PEIR Chapter 12, it is clear Stena Line's routes are significantly affected by the Mona Array Area, in particular due to the routes required during adverse weather conditions. The PEIR estimates the deviation to be 2.6nm/7.4 minutes for the Liverpool-Belfast route per vessel per trip (See Mona PEIR, Chapter 12, section 12.8.3.5.). The deviation is significant for Stena Line's operations which rely on just in time arrival. Just as an example, an additional 2.6nm crossing distance for three vessels twice daily over the 35-year lifespan of the Project is almost 200,000nm in total (before any further deviation created by the Orsted project is taken into account). At current fuel prices, this additional mileage over the lifespan equates to US\$500,000 per annum, or a total of US\$17,300,000. On any view, this is a staggering addition to Stena Line's operating costs.
- (c) The necessary deviation must also be considered alongside the need for adverse weather routeing (discussed below). The Navigation Risk Assessment published in the PEIR (NRA, section 1.8.3.20) concludes that, for ferry vessel routing, *"in adverse weather, the reduced sea room and increased duration would necessitate **additional operational constraints and potential cancellations** to these services"*

(see NRA, section 1.8.3.20). The cumulative impact of the necessary deviation that increases sailing time and adverse weather routing therefore has a significant impact on Stena Line's operations far beyond the estimated 2.6nm/7.4 minutes per vessel per trip.

- (d) Stena Line must consider the impact of the Wind Farms' footprint on its operations during the construction phase, the years of operation and during decommissioning. Stena Line expects the construction phase to be particularly disruptive to its voyages and the need to deviate will lead to delays. The Project Consortia have estimated construction time to be 4 years for Mona, 2.5 years for Morecambe and 4 years for Morgan. Should the construction phase take longer than estimated, Stena Line needs to factor this into its planned operations. Further, it is not clear to Stena Line what the Marine Operating Guidelines will include in relation to risks and necessary deviation during construction of the Wind Farms. The adverse impacts on ferry routing are highlighted in the Mona PEIR, Chapter 12, section 12.8.3.3:

*"During construction, **vessel traffic would be displaced from the Mona Array Area** due to the presence of construction buoyage and safety zones around fixed structures which are under construction. ..."*

*"For regular runners such as ferries, **this has the potential to result in a significant increase in costs or make schedules unviable**. Furthermore, impacts on routing may result in increased risks of collision or allision...Increased transit distance necessitates an increase in fuel burn which has a direct additional cost to operators. Furthermore, this would increase the environmental impact of their operations through increased emissions." (See NRA, section 1.8.3.1)*

- (e) The footprint of the Mona Array Area and the consequential deviation that Stena Line's vessels will need to undertake causes serious concerns primarily for the safety of crew and passengers. Not only is the increased risk of collision or allision highly concerning (and discussed further below), but increased transit times may affect the crew's hours of rest and could risk contravening the Maritime Labour Convention's minimum hours of rest. The PEIR (at Chapter 12, section 1.8.3.1) acknowledges that *"increased transit duration could make compliance with the*

convention impossible without compromising schedules or hiring additional crew."

This in turn would have a further financial impact on Stena Line's operations.

- (f) Another concern that Stena Line have is the potential environmental impact caused by increased emissions from the additional transit distance and resulting fuel consumption. This may also adversely affect Stena Line's ability to comply with regional and international maritime emissions regulations, including the IMO's CII regulations.

8.2 Navigational safety

Overview

- (a) At the outset, Stena Line underlines and emphasises that the Navigational Risk Assessment (NRA) published in the PEIR (see NRA, section 1.9.8 and 1.11.3) concludes that Mona creates hazards with **unacceptable risks to navigational safety and fail requirements in both NPS EN-3 2.6.165 and MGN 654 Annex 1.**
- (b) While risk control options are discussed, the PEIRs acknowledge that these are conceptual at this stage and have not been implemented. In any event, Stena Line does not agree that the conceptual risk controls are appropriate or likely to be effective. Notably, a number of the risk controls proposed would only mitigate the effects of an incident, rather than preventing it occurring in the first place. As such, they cannot properly be categorised as risk controls.
- (c) Fundamentally, Stena Line, as a ferry operator in the region responsible for the safety of its crew and passengers, owing a duty of care to others and being responsible for stewardship of the environment, cannot accept the risks and failures to navigational safety set out in the NRAs and is concerned that proposed measures and risk control options will not be sufficient.

Data sets used and methodology

- (d) Stena Line acknowledges the NRAs that have already been conducted, including the Cumulative Regional Navigational Risk Assessment (CRNRA) undertaken collaboratively for the Mona, Morgan and Morecambe Offshore Wind Projects.
- (e) Stena Line's major concern throughout the consultation process has been that of navigational safety and Stena Line's primary obligations to ensure the safety of their employees, crew and passengers which may number up to 1000 persons on summer sailings along with the protection of the environment, which is the motivation for this concern.
- (f) While Stena Line recognises the impact the COVID-19 pandemic may have had on recreational and commercial vessel movements, the omission of data sets from 2020-2022 means the PEIR relies on outdated information and importantly does not reflect the surge in ferry traffic post-pandemic. Stena Line therefore queries the assertion that "*vessel traffic is expected to have largely returned to pre-pandemic levels*" on the basis that traffic may well have increased beyond pre-pandemic levels (**see Mona PEIR Chapter 12, section 12.4.1.2, Morecambe PEIR Chapter 14, section 14.100**). In fact, Stena Line has obtained data contesting such findings, including port call figures for cruise ships that show an increase of calls to the Ports of Liverpool and Belfast in 2022 and projected for 2023.
- (g) The vessel density and number of vessels of different types that would cross the Project footprints is difficult to determine. This is acknowledged in section 12.4.4.18 of the Mona PEIR in relation to the density of smaller boats: "*However, small boats operating inshore may not carry AIS and therefore the actual numbers could be underrepresented*". From Stena Line's experience of operating in this region they agree that actual numbers are most likely significantly underrepresented.
- (h) Further, the NRA acknowledges that passenger numbers are increasing (section 1.7.3.4) and that Ro-Ro freight is increasing generally (Figure 1.39). This is certainly Stena Line's experience, with passenger volumes growing year on year, complimented by the increased buoyancy in the economy of Ireland. As noted

above, Stena Line are investing and responding to this by purchasing larger tonnage to increase their capacity.

- (i) It is of concern that whilst adverse weather has been considered, this has been confined to wind, wave, and tidal conditions. No consideration appears to have been given to navigating in conditions of restricted visibility.
- (j) More generally, Stena Line are concerned that the Wind Farms have confined their analysis of historical data to the UK region. Given the global development of offshore wind farms, much of which pre-dates developments in and around the UK (particularly in the rest of Europe), Stena Line considers it would have been more appropriate to consider global (or, at least Europe wide) statistics.

Assessment of incident risks

- (k) Crucially, the NRA (see NRA, section 1.9.6.5), concludes that the possibility of a collision between ferry/passenger vessels and another such vessel or a cargo/tanker vessel is a **high risk and unacceptable hazard**. Such risks directly impact Stena Line as a passenger ferry operator and cannot be accepted.
- (l) The magnitude/likelihood of impact used in the Mona PEIR applies a very broad range between what is rated 'Medium' (reasonably probable that hazard may occur / 50%) and what is rated 'Low' (unlikely to impact Projects, but has occurred elsewhere / 10%). No other 'middle ground' ratings are contemplated between 'Medium' and 'Low' in the PEIR. Stena Line submits that using such a broad range for impact assessment criteria encourages selecting 'Low', given the absence of any other criteria to rate the risk between 10% and 50% and the high threshold of selecting 'Medium' at 50% hazard risk, such that the results are skewed in favour of a low impact result (see Mona PEIR Chapter 12, Table 12.12). The matrix used for the assessment of the significance of the effect also offers a generous risk tolerance compared to maritime industry standards and Stena Line therefore queries its appropriateness and whether it has been properly stress tested.
- (m) Further, sections 12.5.2.4 and 12.5.2.6 of the Mona PEIR stipulate that, 'final assessment' has been carried out by 'expert judgment'. It is not clear to Stena Line exactly what experts have been consulted and where the 'expert judgment' has

been sought. Stena Line therefore requests full transparency and disclosure in this regard.

- (n) With regard to the review of historical incidents within the shipping and navigation study areas, Stena Line queries the relevance of analysing historical incidents in an area that will be subject to a significant and unprecedented construction project. While Stena Line acknowledges that the review of MAIB and RNLI databases appears thorough, the future risks of condensing vessel traffic to narrower navigation corridors will be a wholly separate consideration compared to any historical data obtained of previous incidents in an area with significantly less navigational constraints or concentrated traffic density.
- (o) Further, Stena Line highlights that two recent allisions have not been considered in the PEIR, namely the "ROCK PIPER" (September 2022 allision between vessel and gravity foundation of future wind farm Fécamp) and "PETRA L" (April 2023 deviation of vessel into Wind Farm array area). Further, the PEIRs have not listed and seemingly not assessed reported 'near miss' incidents. In Stena Line's own research, at least 10 'near miss' incidents were identified involving vessels in or near Wind Farms. While the investigation of 'near miss' incidents may not be as detailed, they are imperative for assessing the risk profile of the Wind Farms in terms of navigation safety.
- (p) Overall, the conclusions of the PEIR on review of the historical incidents of vessels involving UK operational offshore Wind Farms is simplistic. Section 12.4.4.36 of the Mona PEIR concludes:

"The accident return rates are generally low, between 10 and 45 operational years between incidents, the majority accounted for by project vessels and have a low consequence, without loss of life or serious pollution. Therefore, over a typical 25-35 year operational duration it would be expected that a typical project would experience three allisions, two groundings and one collision or near miss. It is notable that there are no recorded accidents involving large commercial shipping vessels and offshore wind farms in the UK. Nor did any of the recorded navigational incidents across the UK sector result in loss of life."

- (q) While Stena Line understands that review of historical incident data may be informative to a certain extent, it must be stressed that each Project and the associated risks will be particular and unique. Further, even one allision or collision in the navigation channels would seriously impact navigation of commercial vessels and ferry traffic, and in turn affecting Stena Line's operations. Further, the PEIR does not properly assess these risks, instead making statements such as:

"Several routes, including the commercial routes through the Liverpool TSS and ferry routes from Heysham and Liverpool could pass within 1.5nm of the Mona Array Area and therefore this could impact the risk of collision. However, existing routes pass as close to other existing offshore wind farms such as West of Duddon Sands and Gwynty- Mor. Therefore, regular runners should be familiar with these effects." (See NRA, section 1.8.11.5)

- (r) Statements made in the PEIR like these are unhelpful and unwelcome and do not recognise the complexity of routeing, passage planning and operating a vessel, especially in dense traffic caused by offshore obstructions.
- (s) Stena Line are also concerned that the whilst the navigation simulations are undoubtedly useful, they are not a sufficiently realistic assessment of real-life conditions of navigation. For example, whilst it is noted that simulations involving the Mona array area did not result in any allisions (section 12.8.8.4 of the Mona PEIR, Chapter 12) Stena Line do not believe that this is necessarily indicative of the likely risk of allision. Similarly, reliance on statistics relating to current Irish sea windfarms should be treated with caution owing to the relatively small geographical area under consideration.
- (t) Stena Line's concern with the above conclusion is that certain incidents and/or navigational risks are accepted as inevitable and not properly analysed or mitigated for. While absolute certainty and safety are of course difficult, if not impossible, to achieve, it appears simplistic to accept and rely on historical incident data to the extent done by the Project Consortia. Stena Line encourages further navigational risk assessments and stakeholder engagement to ensure navigating the Wind Farms is as safe as possible.

Adverse weather routeing

- (u) The nature of Stena Line's operations and the design of their vessels make it more susceptible to disruption due to adverse weather. Stena Line's operations rely on both freight and passenger traffic, where safety (primarily) and comfort and enjoyment (secondarily) play an important role in the customer experience. It should be noted that the two EFlexer Class vessels are certified to carry up to 1,000 persons on board. It is therefore vital to the continued operation of Stena Line's routes that appropriate weather routeing is available that minimally impacts passenger experience and sailing time.
- (v) The Project's footprint and the cumulative impact of the presence of such a volume of offshore windfarms effectively reduces the options available to our vessels' Masters to alter course to alleviate vessel motion. The consequence of our Masters no longer having a full range of routing and alteration options, may at the very least result in cancelled sailings. At worst, Masters may find themselves whilst on passage in a situation where excessive vessel motion cannot be mitigated by altering course and this in turn may potentially result in cargo shift or injuries to passengers and/or crew on board. It should be highlighted that the RoRo MV Riverdance suffered such a fate in January 2008 where her cargo shifted in adverse weather and the vessel grounded near Blackpool and was a declared a constructive total loss.
- (w) As a general comment, whilst the Admiralty Sailing Direction stated guidance on wind, wave and tidal conditions (section 12.4.4.11 of Mona PEIR, Chapter 12) are acknowledged, it has been identified during stakeholder engagement relating to the Wind Farms that higher seas and stronger winds are experienced to the South East of the Isle of Man during the prevailing South Westerly winds.
- (x) Section 12.8.4.4. of the Mona PEIR acknowledges the impact the Mona Array Area would have on vessel traffic:

*"During adverse weather, some sailings are delayed or inevitably cancelled irrespective of the presence of the Mona Array Area. However, with the presence of the Mona Array Area, sailings may be required to route a greater distance and duration. Over the course of a day, the aggregation of **these delays would result in***

the potential for additional sailings to be cancelled where constraints such as hours of rest are exceeded. Such effects are already experienced by operators, but the presence of the MOWP may exacerbate this."

Whilst cancellations are indeed a concern and a 50% increase (as noted in section 12.8.4.7 of the PEIR, Chapter 12) is significant, Stena Line are also (more commonly) affected by departures being delayed for a more favourable weather window. In terms of navigational considerations, a delayed departure and associated weather routing is also particularly challenging, as is the corresponding impact on hours of rest.

- (y) The presence of the Wind Farms also risks cutting down adverse weather route options for Stena Line's mariners as they seek to safely transit. This includes the route to the east of the Isle of Man for the Belfast to Liverpool route. Section 12.10.4.14 of Mona PEIR Chapter 12 acknowledges that "*the use of narrow corridors and frequent course changes may make [the east of Isle of Man route] unattractive.*" Stena Line submits that it is not merely 'unattractive' but due to the increased hazard of the proximity to wind turbines and the risks involved in sailing close to them in a restricted space that means the route (which is currently a weather safe route) will likely be removed as an option for Stena Line's vessels. This is unnecessarily restrictive to Stena Line's masters, who should be able to make a decision on whether to pass east or west of the Isle of Man based on the precise tidal conditions and corresponding seakeeping ability, the point being that either option should be available to them.
- (z) Further, the PEIR estimates that the estimated cancellations for Stena Line's Liverpool to Belfast route may increase from 14 to 21 cancellations and for Stena Line's Heysham to Belfast route from 10 to 15 cancellations (see Mona PEIR, Chapter 12, section 12.10.4.7). The PEIR estimates that the Liverpool to Belfast route would see an "*increase in transit times by 24 minutes, a total delay of at least 38 minutes relative to the typical route of 418-495 minutes*" (see Mona PEIR, Chapter 12, section 12.8.4.14). For the Heysham to Belfast route, the PEIR estimates that the cumulative impact of the Wind Farms would in adverse weather increase delays by at least 119 minutes (see Mona PEIR, Chapter 12, Table 12.25).

- (aa) The PEIR assesses the impact on adverse weather routing to be 'Medium'. Considering Stena Line's current operations, a delay of this nature risks significantly impacting customer satisfaction. As previously stated, Stena Line as a ferry operator is also more susceptible to these type of disruptions.

Mitigation measures

- (bb) Table 12.16 of the Mona PEIR sets out a number of measures adopted that form part of the project design. However, it is not clear to Stena Line exactly how many of these measures will be adopted or enforced, beyond a commitment by the Project Consortia to implement the measures. Further, Stena Line requests further explanations on what mitigation or contingency plans are in place in the event some measures are not adopted or properly enforced during the Project lifetime.
- (cc) Several proposed measures lack necessary detail. By way of example, it is unclear what 'poor conditions' for use of fog horns entail and how this requirement will be operated in practice. Similarly, the use of guard vessels "*as required*" does not make clear when or how such a measure will be taken.
- (dd) Other proposed measures are unrealistic and, if adopted, risk falling foul of international regulations. Section 1.8.6.31 of the Mona PEIR Chapter 12 discusses how the geometries of offshore wind farms could reduce the visible appreciation of other vessels and claims "*however, larger vessels would be identifiable from AIS and therefore passing arrangements could be agreed.*" The suggestion that AIS should be relied on for collision avoidance is deeply concerning. This is especially so in light of Marine Guidance Note 324, which stresses that AIS information should be "*treated with extreme caution and only used for enhancing situation awareness and **not for collision avoidance decision making.***" (See MGN 324, section 4.10) Stena Line submits that such proposed overreliance on AIS as a collision avoidance tool could be in breach of COLREG 7(c).
- (ee) There is also a lack of detail on how measures will be enforced, for example in relation to Marine Operating Guidelines, vessel standards, PPE, training and vessel monitoring. Further, a statement that vessels should comply with international, UK and Flag State regulations cannot be classified as a mitigation measure. In any

event, the proposed mitigation measures must be backed up by tangible and effective action points.

- (ff) Overall, while Stena Line recognises and supports the measures listed, its concern is how the measures will be achieved and regulated in practice so as to have any effect beyond being a statement of intent.

Cumulative effects

- (gg) Generally, Stena Line is concerned with the PEIR's lack of consideration for how cumulative effects of several factors have not been considered when assessing navigational safety. For example, Table 1.27 of Mona PEIR, Chapter 12 (page 75) claims to show 'realistic traffic scenarios' in different areas with various vessels. Crucially however, the PEIR has not assessed the interactions between the different types of vessels (ferries, commercial, tug, fishing and recreational). Instead, they are assessed individually as to how each type may converge with vessels of the same type rather than how vessels of different types may converge. This therefore appears to present a highly theoretical scenario and the cumulative effects of different vessel types interacting has not been fully assessed. The PEIR's Cumulative Regional Navigation Risk Assessment confirms this by acknowledging that neither fishing and recreational vessels nor non-direct transits such as loitering or pilot boarding have been included in the analysis of concurrent frequency of two vessels meeting in the relevant areas (see NRA, section 1.8.6.3). This clearly shows that cumulative effects of different vessels have not been properly analysed.
- (hh) Another concern is how the combined footprint of the Wind Farms will make traversing the corridors between them more difficult for Stena Line and other vessel operators. The Cumulative Regional Navigation Risk Assessment recognises that "*vessels proceeding north to the east and west of the Mona Array Area **would not have visual sight of one another until potentially within the constrained corridor**" (see Morecambe PEIR, Appendix 14.2, section 8.7.4 and see also NRA section 1.8.6.31). This is a very real issue for any vessels transiting the area as there is a danger that vessels interpret the COLREGs differently based on their own visual sightings. While the PEIR makes reference to COLREGs, it is not acknowledged that COLREGs section II (Rules 11 to 18) only apply to vessels that are in sight of one*

another. The need for proper mitigation measures is therefore crucial to avoid collision risk.

- (ii) The NRA at section 1.10.2.11 further notes in relation to the Mona to Morgan corridor that the width was insufficient for collision avoidance: "*In particular, were two vessels to meet in the corridor **a preferred 1nm CPA could not be maintained from the other vessel and the wind turbines.***" The combined footprint of the Wind Farms and how this would force vessel traffic into narrow navigation corridors is of serious concern to Stena Line, whose vessels transit the relevant areas regularly. Insufficient collision avoidance is unacceptable as Stena Line needs to look after the safety of its crew and passengers.
- (jj) The cumulative effects of the Wind Farms would also exacerbate the impact of adverse weather routing as vessels transit the designated corridors. The Navigation Simulation exercises revealed that adverse weather conditions would be uncomfortable and hazardous to passengers, likely leading ferries to take a more circuitous route around the Wind Farms rather than through the corridors. The NRA notes however that if weather conditions would worsen while a vessel was in the corridor, "*there is **little opportunity for the master to mitigate those conditions.** Therefore, as excessive roll starts to be experienced, the master may for instance turn into wind, but in doing so **will increase the risk of collision with the offshore wind farm**" (see NRA, section 1.8.8.4). Such risks are highly concerning and not acceptable to Stena Line.*

8.3 Impact on the environment

- (a) Stena Line's vessels will be required to deviate around the Wind Farms, which will increase the transit distance (as discussed above) and in turn will increase fuel consumption.
- (b) Increased fuel consumption increases the vessels' greenhouse gas emissions and as such will have a detrimental environmental impact. Further, this may impact Stena Line's ability to comply with international and regional environmental emissions regulations as well as its ability to achieve Stena Line's own climate goals.

The environmental impact for ferry operators is recognised in the PEIR (see NRA, section 1.8.3.1).

- (c) The IMO's Carbon Intensity Indicator (CII) regulation, which came into force in January 2023, are a set of mandatory measures implemented by the International Maritime Organization (IMO) to reduce greenhouse gas emissions from commercial ships as part of efforts to combat pollution and climate change. The CII Index of a vessel is used to determine how efficiently ships operate. Every vessel is required to have its CII rating calculated and independently verified. Vessels are given a CII rating of A, B, C, D, or E, with A being the best possible rating. A ship that is rated D for three consecutive years, or E in one year (e.g. those with the highest carbon intensity) will be required to submit a "corrective action plan" that outlines how the vessel will be brought to a minimum C rating. The most effective mitigations to improve the CII rating of a vessel is to reduce its speed on passage and improve its voyage planning. Clearly large new obstructions on passage such as windfarms will adversely affect a scheduled service where increased speed will be required to ensure timetabled services are met. If a ship or ship owner is non-compliant with the CII regulation, they may face financial penalties and increased costs for refinancing non-compliant ships, as well as a poor CII rating which could affect their business in the long term.
- (d) In line with the regulations, Stena Line have calculated the operational CII for all its vessels that fall within the scope of the regulation. Based on data and calculations available at the time of this response, both Stena Edda and Stena Embla are estimated to fall into CII Band B. Stena Foreteller meanwhile is estimated to fall within Band E. Based on data and calculations available at the time of this response the Stena Hibernia is estimated to fall within CII Band B and Stena Scotia in Band D. Any increase in speed and/or fuel consumption required to navigate around the Windfarms is therefore a risk to Stena Line's vessels' ability to comply with the regulation.

8.4 **Stena Line's ability to continue operating its routes**

- (a) It is clear from the above analysis that a combination of factors, including (1) the deviation required by Stena Line's vessels during construction and operation of the

Wind Farms, (2) adverse weather routeing, and (3) navigational risks will have a financial and operational impact on Stena Line. The consequences will include delays to voyages due to the longer routes required and increased fuel consumption. This is likely to have a knock-on effect on customer satisfaction and may ultimately make continued operation of Stena Line's routes unviable.

- (b) Separately, the construction and footprint of the Wind Farms may potentially restrict or reduce the opportunities for Stena Line to develop new routes in the future where the Wind Farms increase travel distance and risk making any proposed routes less competitive to other methods of transport.

9. ONSHORE IMPACT

9.1 General

- (a) Whilst Stena Line acknowledges that the Mona Wind Farm will not be using the same Transmission Assets as the Morecambe and Morgan Wind Farms, given the relative close proximity of the landfalls, there is still likely to be a cumulative onshore impact on North Wales and Northwest England from the Wind Farms. It is therefore unclear why Mona Wind Farm has produced an assessment which does not consider the cumulative impact of the Wind Farms, or flagged that it is unable to do so due to the lack of information available on the Morecambe and Morgan Transmission Assets.

9.2 Seascape, Landscape and Visual Resources

- (a) Section 26.13.5.13 of the Mona PEIR Chapter 26 acknowledges that there is "*a sense of 'filling' of the area between the North Wales and Northwest England clusters*" and that, throughout the operations and maintenance phase of the Mona Wind Farm will be of moderate or major adverse significance on the aesthetic and overall character of the landscape and seascape on the Mona Array Area (and adjacent areas) (see sections 26.13.5.15 and 26.13.6.15). Figure 15.21 of the Morgan PEIR Chapter 15 also highlights the volume of wind farms (beyond Mona, Morecambe and Morgan).

- (b) Stena Line's view is that these comments extend beyond matters of aesthetics and character. Rather it is indicative that there is overcrowding of wind farms (including but not limited to Morgan, Mona and Morecambe) in navigable waters which (as discussed above) will impact Stena Line and other stakeholders in an adverse way (i.e., increased collision and allision risks).

9.3 Radar

- (a) Stena Line has some concerns arising out of the PEIR Submissions made in respect to the effect of high densities of high Wind Turbine Generators ("WTGs") on Marine Radar. PIANC WG 161 ('Interaction between offshore wind farms and maritime navigation') written by the Maritime Navigation Commission of the World Association for Waterborne Transport Infrastructure identifies potential radar interference from navigating in proximity to high density windfarms. Stena Line has additionally accessed pictures showing the effect on the radar of the P&O ferry MV Norbay caused by multipath echoes caused by the North Hoyle windfarm off the North Wales coast.
- (b) Morecambe PEIR Chapter 16 at section 16.202 states:
- "Aviation lighting fitted to offshore WTGs could cause confusion to the maritime community as the specification for the lighting to be displayed below the horizontal plane of the light filament itself **could cause mariners some confusion**. This confusion could result in WTGs with conflicting warning lighting representing a collision risk to maritime surface vessels."* (emphasis added)
- (c) Firstly, it is noted that this observation was not made in the corresponding Mona or Morgan Offshore Generation Assets PEIR Submissions, which creates concern as to whether the Mona and Morgan Offshore Wind Farms have taken this problem into consideration (and are therefore taking steps to mitigate the risks involved).
- (d) Secondly, Stena Line notes that any confusion as to the identity/purpose of a warning light poses a serious navigational risk to all marine traffic, including Stena Line's vessels. It is paramount that a full consultation in respect of the use of lights on the WTGs is sought however, it is not clear as to who (if anyone) has been consulted on this point. More details are needed for Stena Line and the wider

maritime community to provide input as to the safety of the new proposed aviation lighting. While it is acknowledged that the second round of Navigation Simulation exercises in May 2023 attempted to simulate the night-time visual effect of such an array of red warning lights, Stena Line notes that it would be unrealistic to expect any simulator to be able to provide a true visualisation of what this may look like in a real-world scenario.

- (e) Thirdly, Stena Line expresses its concern that navigation lights on the wind turbines may risk interfering with vessels' ability to identify other navigation lights and impact their ability to manoeuvre safely. The difficulty posed by background lights when navigating vessels at night is recognised by COLREGs Rule 6(iv).

9.4 Climate Change

- (a) Stena Line acknowledges that the Wind Farms will likely have an overall beneficial effect in respect of climate change.
- (b) However, the figures estimated do not provide an accurate and complete assessment of the cumulative or individual impact of the Mona, Morecambe and Morgan Offshore Wind Farms on direct/indirect greenhouse gas emissions ("**GHG Emissions**"):
 - (i) The GHG Emissions for the Transmission Assets for Morecambe and Morgan Wind Farms have not been considered in the assessments. There are GHG Emissions associated with the Transmission Assets for Morecambe and Morgan Wind Farms which should be considered in determining the overall GHG Emissions footprint and carbon payback periods (see Morecambe PEIR Chapter 21, section 21.44).
 - (ii) Indirect GHG Emissions have not been fully considered. Importantly, the increase in GHG Emissions resulting from the additional time spent by vessels (including Stena Line's vessels) in transiting the Wind Farm areas has not been considered. It appears that only GHG Emissions associated with the Wind Farms have been considered (i.e., GHG Emissions from vessels transporting materials to the Wind Farms) (see Morecambe PEIR Chapter 21, Table 21.9).

- (iii) There have been no cumulative assessments on the impact of the Mona, Morecambe and Morgan Offshore Wind Farms on direct/indirect GHG Emissions or the climate generally. This is particularly relevant where different phases of the Projects are predicted to produce different levels of GHG Emissions (i.e., as the construction phase of the Wind Farms are anticipated to produce the most direct GHG Emissions (see, for example, Morecambe PEIR Chapter 21, section 21.57)), this means that there may be a cumulative adverse impact for a significant period across the Projects before any cumulative net benefit is seen. It is impossible to make an assessment on this point given that insufficient information is available on the Morgan and Morecambe Transmission Assets (see Morgan PEIR Chapter 17, section 17.13.1.2).
- (c) Stena Line is committed to reducing its emissions both onshore and at sea and invests in clean energy technology. The increased time it will take for Stena Line to perform its routes (in normal and adverse weather conditions) as a result of the footprint of the Wind Farms will lead to increased GHG Emissions and will be counter-productive to Stena Line's current policies, and the purpose and intent of the Wind Farms.
- (d) This increase in GHG Emissions is not anticipated to be insubstantial. Indeed, in considering increased shipping movements in respect of vessel movements related solely to the operation and maintenance of an example windfarm, the Morecombe PEIR suggests that these movements alone contribute 14.3% to total GHG emissions of the example windfarm (Morecambe PEIR Chapter 21, section 21.16).
- (e) Inaccurate GHG Emissions statistics make it impossible to assess the efficacy of the Wind Farms and their net climate benefit.

9.5 **Socio-economics**

- (a) Stena Line reserves the right to comment further in respect to the Morgan and Morecambe Transmission Assets before it is able to comment substantively on any socio-economic impacts that may impact Stena Line's operations.

9.6 Human Health Assessment

- (a) Stena Line notes that there is insufficient information in respect of the cumulative impact of the Mona, Morecambe and Morgan Offshore Wind Farms on Human Health deriving from navigational risks or otherwise, to be able to make a cumulative effects assessment ("**CEA**") (see Mona PEIR Chapter 30 at section 30.11.1.10, Morecambe PEIR Chapter 19 at section 19.190). Although, it is queried why Morgan Offshore Wind Project Generation Assets has not included a similar reservation (see Morgan PEIR Chapter 19 at section 19.10).
- (b) It is understood that the CEA for the Wind Farms will be contained within the Environmental Statement health chapter submitted in support of the application for Development Consent (see Mona PEIR Chapter 30, section 30.11.1.10, Morecombe PEIR Chapter 19 section 19.193).
- (c) It is therefore not possible to fully comment or appreciate the collective impact of the Wind Farms at this stage, save that it is noted that the potential cumulative impact:
 - (i) on commercial operators (including strategic routes and lifeline ferries) is considered to be "moderate adverse";
 - (ii) on adverse weather routeing is considered to be "major adverse";
 - (iii) to vessel collision risk is considered to be "major adverse"; and
 - (iv) on collision risks to vessels is considered to be "moderate adverse" (see Morgan PEIR Chapter 19, section 19.10.2.1, Mona PEIR Chapter 30, section 10.11.2.1).
- (d) The Mona PEIR Submissions also suggest that there may be adverse cumulative impact to essential recognised sea lanes and access to ports and harbours (see Mona PEIR Chapter 30, section 10.11.2.1), which is not reflected in the corresponding PEIR Submissions made in respect of the Mona and Morecambe Wind Farms.

- (e) The impact of the above is stated to have the potential to be *"influential in widening health inequalities"* as a result of *"ongoing and more frequent disruption in access to goods and services and increased shipping risk"* (Mona PEIR Chapter 30, section 30.11.2.8). It is thought to be of moderate adverse significance if unmitigated (see Mona PEIR Chapter 30, section 30.11.2.6).
- (f) There is the potential for adverse effects associated with shipping's access to human health, when Mona, Morecambe and Morgan are considered together. The Morecombe PEIR Chapter 19, section 19.193 states:
- "Discussions between the projects developers is ongoing to develop measures to avoid **navigational impacts that could constitute a likely significant effect for public health**"* (emphasis added).
- (g) As stated above, Stena Line's concerns are that the shipping risks are not going to be properly mitigated effectively. To emphasise, Stena Line provides a lifeline ferry service to several communities. In particular, Stena Line's concerns in respect of overcrowded shipping lanes and the associated increased collision and allision risks, which will in turn affect human health, are restated.
- (h) Stena Line requires further details to be provided as to the mitigation steps being taken to reduce the impact of human health, particularly where there is an increased risk of fatalities and injuries during navigation, to make an informed opinion and position. Noting that section 12.8.4.19 of the Mona PEIR, Chapter 12, refers to *"possible minor injuries"* arising from vessel heading options being constrained during adverse weather, the PEIR clearly underestimates the sheer number of passengers and crew carried by Stena Line. As an example, there are up to 1,000 persons carried onboard the E-Flexer class vessels. The prospect of minor injuries across such a large passenger and crew base is significant.

10. MITIGATION

- 10.1 Stena Line welcomes mitigation efforts to ensure the impact on its routes and operations are minimised. These include amendments to the Mona Array Area to maintain a 2nm offset in the approaches to the Liverpool Bay TSS and to reduce the northern extent of the Mona Array Area by approximately 3nm to increase the gap between the Mona and

Morgan Array Areas (see Mona PEIR Chapter 12, section 12.14.1.2). While the Project developers have undertaken to carry out further navigation risk assessments applying these reduced boundaries of the Mona Array Area, Stena Line cannot at this time comment on this measure as it has not been considered in the PEIR and NRA. Given the findings of the NRA as to the unacceptable risk levels caused by the Wind Farms, Stena Line contends that reducing the array boundaries may be the only effective mitigation measure available. Stena Line will continue to fully engage with the consultation process but reserves its right to comment as to whether the proposed revised boundaries are sufficient to reduce the navigation risks to an acceptable level.

- 10.2 As noted in section 8.2 above however, the control risks and proposed mitigation measures to address the unacceptably high risks to navigation safety are not properly detailed and do not contain a proper plan for implementation. Stena Line urges the Project Consortia to consult all stakeholders and also consider the impact of the proposed Orsted Wind Farm when developing mitigation measures.

11. **OTHER INTERESTED PARTIES**

- 11.1 Alongside Stena Line, regional ferry operators that have been involved throughout the consultation period are Isle of Man Steam Packet, Seatruck Ferries and P&O. However, as recognised in the PEIR, Stena Line is the ferry operator most impacted by the footprint of the Wind Farms and will likely see its routes affected the most. Based on the forums attended by Stena Line's representatives, it is understood that these ferry operators share many of the same concerns as Stena Line. These include the navigational risk posed by the Wind Farms (in particular when considered cumulatively), the safety of passengers and crew, the impact on ferry routes (including delays and increased costs) and a consequent adverse impact on customer satisfaction (for example due to longer transit routes and more frequent cancellations). Stena Line also calls on the Project Consortia to prioritise the concerns raised by the UK Maritime and Coastguard Agency (MCA) and the UK Chamber of Shipping.
- 11.2 Commercial fisheries operators also share many of the same concerns as Stena Line. These include the concern for spatial squeeze on fishing vessels due to changes in ferry routeing as a result of the footprint of the Wind Farms (see Mona PEIR, Chapter 11, section 11.1, Morgan PEIR Chapter 11, pages 39-40).

11.3 It is particularly noteworthy that many types of vessel traffic are expected to increase in the short to medium term in the region. Given the expected operational life of the Wind Farms is around 35 years, the risk assessments need to account for not just the current interested parties but whether these will increase over the years.

11.4 The Morecambe PEIR acknowledges that national port traffic is forecast to grow in the long term with unitised freight (including Ro-Ro vessels) "*forecast to grow strongly, driven by economic growth*" (see Morecambe PEIR Chapter 14, section 14.95). Further, the Port of Liverpool has invested in shoreside infrastructure to better handle larger vessels capable of carrying more cargo, demonstrating their particular growth intention.

12. CONCLUSION

12.1 Stena Line reiterates that it is not opposed in principle to the development and construction of the Wind Farms and recognises the consultations that have so far taken place. However, the PEIRs have not settled all concerns that Stena Line and other stakeholders have raised.

12.2 In particular, the Navigation Risk Assessment concludes that the construction as currently planned renders unacceptably high risk scores. This is especially alarming for Stena Line, as a high and unacceptable risk of collision between passenger / ferry vessels and other commercial vessels was found.

12.3 The mitigation measures identified have not been implemented and Stena Line notes that many lack detail or practical enforcement.

12.4 Stena Line provides a lifeline service to local communities and is fully committed to continuing to operate its routes. However, there is a real concern that the impact of the Wind Farms, as currently set out in the PEIR, on Stena Line's operations will make this difficult if not impossible.

13. LIST OF ANNEXED DOCUMENTS

13.1 Annex 1 - Stena Line - Cumulative Deviation Analysis

13.2 Annex 2 - Orsted - Stena Line Stakeholder engagement_23_02_17