

Chapter 24 Addendum: Risk of Major Accidents and Natural Disasters



ORIEL WIND FARM PROJECT

Environmental Impact Assessment Report - Addendum Chapter 24 Addendum: Risks of Major Accidents and Natural Disasters

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24 CHAPTER 24 ADDENDUM – RISK OF MAJOR ACCIDENTS AND NATURAL DISASTERS

24.1 Introduction

This Addendum provides supplementary information on the assessment presented in chapter 24 of the Environmental Impact Assessment Report (EIAR) regarding the risk of major accidents and natural disasters. It has been prepared in response to a Request for Further Information (RFI) from An Coimisiún Pleanála (ACP) (formerly An Bord Pleanála) regarding the planning application (case reference ABP-319799-24) for the Oriel Wind Farm Project (hereafter referred to as “the Project”).

No specific information relating to the risk of major accidents and natural disasters was requested in the RFI, however the Applicant has updated the risk register in Table 24-7 in chapter 24: Risk of Major Accidents and Natural Disasters (EIAR volume 2C). The updated risk register (presented in Table 24A-1 in section 24.7.3 of this Addendum) includes updated mitigation which has been proposed in chapter 13 Addendum: Shipping and Navigation (EIAR volume 2B Addendum), appendix 13-2: Safety Justification for Single Line of Orientation (EIAR volume 2B Addendum), appendix 13-3: Response to Department of Transport – MSO Submission (EIAR volume 2B Addendum) and chapter 28 Addendum: Traffic and Transport (EIAR volume 2C Addendum). These changes were made in response to the RFI and submissions from the Marine Survey Office (MSO), the Irish Coast Guard (IRCG) and Transport Infrastructure Ireland (TII) and are shown in blue text.

The heading sections and subsections in this Addendum use the same headings from chapter 24: Risk of Major Accidents and Natural Disasters (EIAR volume 2C). The reader is directed to review the information presented in this Addendum alongside the assessment presented in the EIAR.

24.2 Purpose of this chapter

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.3 Policy context

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.4 Consultation

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5 Baseline environment

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.1 Introduction

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.2 Project overview

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.3 Shipping and navigation

Chapter 13 Addendum: Shipping and Navigation (EIAR volume 2B Addendum) and associated appendices provide supplementary information on shipping and navigation in response to the RFI. Additional mitigation has been included in the updated risk register (Table 24A-1) in section 24.7.3.

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24.5.4 Commercial fisheries

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.5 Other marine activity (recreation)

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.6 Airspace and aviation (civil and military)

Chapter 14 Addendum: Aviation, Military and Communications (EIAR volume 2B Addendum) and associated appendices provide supplementary information on aviation. However, this has not resulted in any changes to the assessment in this Addendum.

24.5.7 Offshore infrastructure

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.8 Onshore infrastructure (built services)

The length of the onshore cable route is approximately 20.1 km, principally located along public roads. To address concerns raised by TII, further details have been provided in chapter 28 Addendum: Traffic and Transport (EIAR volume 2C Addendum) and associated appendices, appendix 28-2: Road Safety Audit (EIAR volume 2C Addendum) and appendix 28-3: Design Report (EIAR volume 2C Addendum). As a result, an updated CTMP has been prepared and is also now referenced in the updated risk register (Table 24A-1) in section 24.7.3 of this Addendum.

24.5.9 Natural disasters

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.10 Major accidents - COMAH establishments

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.11 Unexploded ordnance

Appendix 5-13 Addendum: UXO Desk Study (EIAR volume 2C Addendum) has provided supplementary information on updated guidance relating to unexploded ordnance (UXO), however this information has not resulted in any changes to the assessment in this Addendum.

24.5.12 Future baseline scenario

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.5.13 Data validity and limitations

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.6 Assessment methodology

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.6.1 Stage 1 - Screening

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.6.2 Step 2 - Scoping

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.6.3 Step 3 - Assessment of significance

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.7 Assessment of major accidents and disasters

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.7.1 Screening outcome

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.7.2 Scoping outcome

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.7.3 Assessment

An updated assessment of major accidents and hazards is presented in Table 24A-1 and supersedes that which is presented in chapter 24: Risks of Major Accidents and Natural Disasters (EIAR volume 2C). Changes are shown in blue text (and text with strikethrough where relevant).

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Table 24A-1: Updated risk register (replaces Table 24-7 in chapter 24: Risks of Major Accidents and Natural Disasters (EIAR volume 2C)).

Potential risk / event	Source and / or pathway	Receptor	Source Document	Reasonable worst consequence if event did occur	Are cross disciplinary impacts likely that could lead to significant environmental effects?	Measures included in the Project to prevent or avoid impacts, including designed-in and management measures	Could this lead to a major accident and/or natural disaster with existing measures in place?	Is the reasonable worst consequence managed to an acceptable level with existing mitigation in place?	If no, what further measures are required to reach an acceptable level?
Navigation and Shipping Collision: risk of physical impacts from other existing navigation and shipping vessels (collision / allision) impacting on all phases	Other navigational and shipping vessels operating in the area	The Project	Chapter 13: Shipping and Navigation (EIAR volume 2B) Appendix 13-1: Navigation Risk Assessment (EIAR volume 2B) Chapter 13 Addendum: Shipping and Navigation (EIAR volume 2B Addendum) Appendix 13-2: Safety Justification for Single Line of Orientation (EIAR volume 2B Addendum) Appendix 13-3: Response to Department of Transport – MSO submission (EIAR volume 2B Addendum)	Physical impact to offshore wind farm area infrastructure (wind turbines, foundations, cables, etc.) and Project vessels caused by vessel collision / allision.	Physical damage to Project vessels and infrastructure. Potential significant impact on water quality through fuel/chemical loss and subsequent impact on biodiversity. Significant damage to energy assets impacting on transmission capacity. Potential for loss of life or serious injury.	Measures included in the Project to manage any potential risk from navigation and shipping (see chapter 13: Shipping and Navigation (EIAR volume 2B) and chapter 13 Addendum: Shipping and Navigation (EIAR volume 2B Addendum)) include, inter alia: <ul style="list-style-type: none"> Promulgation of information and warnings through Notice to Mariners and other appropriate Maritime Safety Information (MSI) dissemination methods. Appendix 13-3: Response to Department of Transport – MSO submission (EIAR volume 2B Addendum) adds that a note could be added to the Admiralty Sailing Directions (NP40) that recommends deep draught vessels bound for Dundalk pass to the south of the Project; Project to undertake vessel traffic monitoring for all Project-related vessels throughout all phases of the Project; Safety zones and rolling advisory clearance distances 	No – these measures comply with standard practice for the installation of offshore wind infrastructure to reduce the risk of impact from and to navigation and shipping. In this regard, the Project is not considered vulnerable to risk of accident or disaster from the existing navigation and shipping in the area.	Yes	N/A

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Potential risk / event	Source and / or pathway	Receptor	Source Document	Reasonable worst consequence if event did occur	Are cross disciplinary impacts likely that could lead to significant environmental effects?	Measures included in the Project to prevent or avoid impacts, including designed-in and management measures	Could this lead to a major accident and/or natural disaster with existing measures in place?	Is the reasonable worst consequence managed to an acceptable level with existing mitigation in place?	If no, what further measures are required to reach an acceptable level?
						<p>to be implemented during construction, decommissioning and major maintenance activities;</p> <ul style="list-style-type: none"> • Marker buoys and other aids to navigation (AtoN); Marking and Lighting Plan has been prepared (see volume 2A, appendix 5-8: Lighting and Marking Plan appendix 5-8 Addendum: Updated Lighting and Marking Plan (EIAR volume 2A Addendum)); and • Continued liaison with the Commissioner of Irish Lights (CIL) regarding buoyage; and • Development of Emergency Response Cooperation Plan (appendix 5-7: Emergency Response Cooperation Plan (EIAR volume 2A)). 			
Unexploded Ordinance (UXO) (Construction Phase)	UXO in the offshore wind farm area and offshore cable corridor can pose a health and safety risk where it coincides with the planned location of infrastructure	Human Health; Marine biodiversity; Existing material assets (vessels) and the Project	Appendix 5-13: UXO Desk Study (EIAR volume 2B) Appendix 5-13 Addendum: UXO Desk Study (EIAR volume 2A Addendum)	Physical impact to vessels and property as well as the Project through uncontrolled explosions. Injury or loss of life.	Potential for impact on human health. Potential impact on water quality in the event of any fuel/chemical loss and subsequent impact on biodiversity.	<p>UXO mitigation measures include:</p> <ul style="list-style-type: none"> • Implementation of Explosives Site Safety Guidelines (ESSG) and relevant training will be provided during the construction phase; and • Remotely Operated Vehicle (ROV) inspection work will be undertaken, on any potential items of UXO identified within 	No – ESSG will be produced prior to pre-construction activities commencing and will include safety and awareness training of ROV inspection work will be	Yes	N/A

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Potential risk / event	Source and / or pathway	Receptor	Source Document	Reasonable worst consequence if event did occur	Are cross disciplinary impacts likely that could lead to significant environmental effects?	Measures included in the Project to prevent or avoid impacts, including designed-in and management measures	Could this lead to a major accident and/or natural disaster with existing measures in place?	Is the reasonable worst consequence managed to an acceptable level with existing mitigation in place?	If no, what further measures are required to reach an acceptable level?
	and associated vessel activity			Injury or loss of marine biodiversity	Damage to material assets.	the offshore wind farm area and offshore cable corridor.	undertaken, if required, (see chapter 5: Project Description (EIAR volume 2A)).		
Risk of Accident from existing built service infrastructure (cables and pipelines) (construction)	Built services/utilities in the area,	The Project	Chapter 29: Material Assets (EIAR volume 2C)	Physical impact to Project infrastructure (cables etc.).	Potential damage to property or infrastructure. Potential disruption or damage to onshore infrastructure. Potential for loss of life or serious injury.	Measures included in the Project to manage any potential risk from navigation and utilities are outlined in chapter 29: Material Assets (EIAR volume 2C) and include, inter alia: <ul style="list-style-type: none"> Adherence to GNI Code of Practice in terms of separation distances; HSA 'Code of Practice for Avoiding Danger from Underground Services'. Furthermore; the ESB Code of Practice; HSA guidance 'Code of Practice for Avoiding Danger from Overhead Electricity Lines'; In addition, the Contractor will be required to engage with all built service providers, prior to commencement of construction; and Adherence to Irish Rail Guidance on construction on or near rail lines. 	No – assuming adequate communication with material assets owners / operation takes place and Project works are undertaken in line with professional codes of practice, no major accidents are predicted.	Yes	N/A
Risk of physical impacts to other	Project vessels	Existing material	Chapter 13: Shipping and	Vessel to vessel or	Potential impact on water quality	Measures included in the Project to manage any potential risk to	No – with the implementation	Yes	N/A

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Potential risk / event	Source and / or pathway	Receptor	Source Document	Reasonable worst consequence if event did occur	Are cross disciplinary impacts likely that could lead to significant environmental effects?	Measures included in the Project to prevent or avoid impacts, including designed-in and management measures	Could this lead to a major accident and/or natural disaster with existing measures in place?	Is the reasonable worst consequence managed to an acceptable level with existing mitigation in place?	If no, what further measures are required to reach an acceptable level?
marine vessels (collision / allision) caused by Project vessels (All phases)	associated with the construction, operational and decommissioning phases of the Project	assets (third party vessels) and the marine environment	Navigation (EIAR volume 2B) Appendix 13-1: Navigation Risk Assessment (EIAR volume 2B) Chapter 13 Addendum: Shipping and Navigation (EIAR volume 2B Addendum) Appendix 13-2: Safety Justification for Single Line of Orientation (EIAR volume 2B Addendum) Appendix 13-3: Response to Department of Transport -MSO submission (EIAR volume 2B Addendum)	vessel to Project collision, resulting in human injury or loss of life.	through fuel/chemical loss and subsequent impact on biodiversity. Damage to material assets impacting on third party operations.	navigation and shipping in the area include, <i>inter alia</i> : <ul style="list-style-type: none"> Promulgation of information and warnings through Notice to Mariners and other appropriate MSI dissemination methods. Appendix 13-3: Response to Department of Transport (MSO Submission) (EIAR volume 2B Addendum) adds that a note could be added to the Admiralty Sailing Directions (NP40) that recommends deep draught vessels bound for Dundalk pass to the south of the Project; Project to undertake vessel traffic monitoring for all Project-related vessels throughout all phases of the Project; Safety zones and rolling advisory clearance distances to be implemented during construction, decommissioning and major maintenance activities; Marker buoys and other AtoN; Marking and Lighting Plan has been prepared (see volume 2A, appendix 5-8: Lighting and Marking Plan, 	of the Project measures as detailed in chapter 13: Shipping and Navigation (EIAR volume 2B), the risk of collision or allision is suitably mitigated.		

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						<p>appendix 5-8 Addendum: Updated Lighting and Marking Plan (EIAR volume 2A Addendum));</p> <ul style="list-style-type: none"> Continued liaison with the CIL regarding buoyage; Implementation of Emergency Response Cooperation Plan (see appendix 5-7: Emergency Response Cooperation Plan (EIAR volume 2A)); and Implementation of Environmental Management Plan (EMP), which includes a Marine Pollution Prevention and Contingency Plan (appendix 5-2: Environmental Management Plan (EIAR volume 2A)). The Marine Pollution Contingency Plan has been updated (appendix 5-2 Addendum: Annex 2 Marine Pollution Contingency Plan (EIAR volume 2A Addendum) and includes the commitment to develop an Oil/HNS Substances Contingency Plan prior to the commencement of construction. 			
Risk of pollution of the marine	Pollution of the marine	The marine environment	Chapter 8: Benthic Subtidal	Potential for loss of fuels,	Potential for significant adverse	<ul style="list-style-type: none"> An EMP (see appendix 5-2: Environmental Management 	No – with these measures in	Yes	N/A

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environment (All phases)	environment from activity (vessels, machinery etc.) and structures (during the construction, operational and maintenance and decommissioning phases of the Project.		and Intertidal Ecology (EIAR volume 2B)	chemicals or other substances from vessels and structures during the construction, operational and decommissioning phases polluting the marine environment.	impact to marine waters. Potential to impact on marine biodiversity.	<p>Plan (EIAR volume 2A)) will be implemented during the construction, operational and maintenance and decommissioning phases of the Project. The EMP includes Project mitigation/monitoring measures and a Marine Pollution Contingency Plan. An update to the MPCP has been included as annex 2 of appendix 5-2 Addendum: Environmental Management Plan (EIAR volume 2A Addendum) and includes the commitment to develop an Oil/HNS Substances Contingency Plan prior to the commencement of construction.;</p> <ul style="list-style-type: none"> A Marine Invasive Non-Indigenous Species (MINIS) Management Plan is presented in volume 2A (see appendix 5-3: Marine Invasive Non-Indigenous Species (EIAR volume 2A Addendum)). The plan outlines procedures for marine works and vessel operations to ensure preventing and reducing the risk of possible spread or 	place, the proposed construction activities are not predicted to have potential for significant risk of major accidents to the marine environment.		

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Potential risk / event	Source and / or pathway	Receptor	Source Document	Reasonable worst consequence if event did occur	Are cross disciplinary impacts likely that could lead to significant environmental effects?	Measures included in the Project to prevent or avoid impacts, including designed-in and management measures	Could this lead to a major accident and/or natural disaster with existing measures in place?	Is the reasonable worst consequence managed to an acceptable level with existing mitigation in place?	If no, what further measures are required to reach an acceptable level?
						<p>introduction of MINIS into water bodies as a result of the Project; and</p> <ul style="list-style-type: none"> All wind turbines of a wind farm are connected to a central Supervisory Control and Data Acquisition (SCADA) system for control of the wind farm remotely at the operational and maintenance base. This allows functions such as remote wind turbine shutdown if faults occur or curtailment of the wind farm by the grid operator. 			
Traffic and transportation: collision risks on public roads (Construction and Decommissioning Phases)	Project vehicles, plant and machinery	Other existing road users including pedestrians, cyclists and road traffic.	Chapter 28: Traffic and Transport (EIAR volume 2C) Chapter 28 Addendum: Traffic and Transport (EIAR volume 2C Addendum) Appendix 28-2: Road Safety Audit (EIAR volume 2C Addendum) Appendix 28-3: Design Report	Physical impact to third party property caused by collision with onshore infrastructure. Major injury or loss of life.	Yes – also potential for impacts on the environment in the event of a spill.	Measures included in the Project regarding traffic management and safety are outlined in chapter 28: Traffic and Transport (EIAR volume 2C), appendix 5-9: Construction Traffic Management Plan (CTMP) (EIAR volume 2A) and appendix 5-9 Addendum: Updated Traffic Management Plan (CTMP) (EIAR volume 2A Addendum) respectively of this EIAR and will mitigate the effects these impacts may have.	No – with these measures in place, the Project is not predicted to have potential for significant risk to cause accidents or disasters on public roads from collision.	Yes	N/A

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Potential risk / event	Source and / or pathway	Receptor	Source Document	Reasonable worst consequence if event did occur	Are cross disciplinary impacts likely that could lead to significant environmental effects?	Measures included in the Project to prevent or avoid impacts, including designed-in and management measures	Could this lead to a major accident and/or natural disaster with existing measures in place?	Is the reasonable worst consequence managed to an acceptable level with existing mitigation in place?	If no, what further measures are required to reach an acceptable level?
(EIAR volume 2C Addendum)									
Risk of accident: Existing Built Service Infrastructure (Construction Phase)	Project vehicles, plant and machinery	Existing material assets (third-party-built services, physical road/ground)	Chapter 29: Material Assets (EIAR volume 2C)	Physical impact to third party material assets / built services. Major injury or loss of life if impact on services such as explosion or electrocution.	Damage to material assets.	See measures outlined above for 'Risk of Accident from existing built service infrastructure' and chapter 29: Material Assets (EIAR volume 2C).	No – with these measures in place, the Project is not predicted to have potential for significant risk to cause accidents or disasters in terms of built services or utilities).	Yes	N/A

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24.8 Mitigation measures

The updated assessment provided in Table 24A-1 has concluded that with the implementation of the measures included in the Project (i.e. designed in and management measures (controls)), that the Project's vulnerability to risks of major accidents and/or natural disasters will still not result in significant adverse effects on the environment. Therefore, no further measures are proposed.

24.9 Cumulative effects

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

24.10 Conclusion

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.

References

There are no changes to chapter 24: Risk of Major Accidents and Natural Disasters.