



White Cross Offshore Windfarm Environmental Statement

Chapter 24: Major Accidents and Disasters



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Glossary of Acronyms

| Acronym | Definition |
|-----------------------|--|
| ALARP | As low as is Reasonably Practicable |
| CBRN | Chemical, Biological, Radiological and Nuclear |
| CEMP | Construction Environmental Management Plan |
| COMAH | Control Of Major Accident Hazards |
| CSM-RA | Common Safety Method on Risk Evaluation and Assessment |
| EIA | Environmental Impact Assessment |
| ERCoP | Emergency Response Co-operation Plan |
| ES | Environmental Statement |
| ETG | Expert Topic Group |
| EU | European Union |
| FFL | Finished Floor Level |
| HDD | Horizontal Directional Drilling |
| HSE | Health and Safety Executive |
| IDB | Internal Drainage Board |
| IEMA | Institute of Environmental Management and Assessment |
| ISO | International Standards Organisation |
| km | Kilometre |
| km² | Square kilometre |
| m | Metre |
| MCZ | Marine Conservation Zone |
| MHWS | Mean High Water Springs |
| MLWS | Mean Low Water Springs |
| MMO | Marine Management Organisation |
| MoD | Ministry of Defence |
| MPCP | Marine Pollution Contingency Plan |
| MPS | Marine Policy Statement |
| MW | Megawatts |
| NNR | National Nature Reserves |
| NPS | National Policy Statement |
| NPPF | National Planning Policy Framework |
| NSIP | Nationally Significant Infrastructure Project |
| OCEMP | Outline Construction Environment Management Plan |
| PEMP | Project Environmental Monitoring Plan |
| PINS | Planning Inspectorate |
| PPE | Personal Protective Equipment |
| SAC | Special Area of Conservation |
| SPA | Special Protected Area |

| Acronym | Definition |
|-------------|---------------------------------------|
| SSSI | Site of Special Scientific Importance |
| UK | United Kingdom |
| UKCP | United Kingdom Climate Projections |
| UXO | Unexploded Ordnance |

Glossary of Terminology

| Defined Term | Description |
|---|---|
| Applicant | White Cross Offshore Windfarm Limited (WCOWL) |
| Cumulative effects | The effect of the Onshore Project taken together with similar effects from a number of different projects, on the same single receptor/resource. Cumulative effects are those that result from changes caused by other past, present or reasonably foreseeable actions together with the Onshore Project. |
| Department for Business, Energy and Industrial Strategy (BEIS) | Government department that is responsible for business, industrial strategy, science and innovation and energy and climate change policy and consent under Section 36 of the Electricity Act. |
| Environmental Impact Assessment (EIA) | Assessment of the potential impact of the proposed Project on the physical, biological and human environment during construction, operation and decommissioning. |
| Landfall | Where the offshore export cables come ashore. |
| Mean high water springs | The average tidal height throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest. |
| Mean low water springs | The average tidal height throughout a year of two successive low waters during those periods of 24 hours when the range of the tide is at its greatest. |
| Mitigation | <p>Mitigation measures have been proposed where the assessment identifies that an aspect of the development is likely to give rise to significant environmental impacts, and discussed with the relevant authorities and stakeholders in order to avoid, prevent or reduce impacts to acceptable levels.</p> <p>For the purposes of the EIA, two types of mitigation are defined:</p> <ul style="list-style-type: none"> • Embedded mitigation: consisting of mitigation measures that are identified and adopted as part of the evolution of the project design, and form part of the project design that is assessed in the EIA • Additional mitigation: consisting of mitigation measures that are identified during the EIA process specifically to reduce or eliminate |

| Defined Term | Description |
|--|--|
| | any predicted significant impacts. Additional mitigation is therefore subsequently adopted by WCOWL as the EIA process progresses. |
| the Onshore Project | The Onshore Project for the onshore TCPA application includes all elements onshore of MLWS. This includes the infrastructure associated with the offshore export cable (from MLWS), landfall, onshore export cable and associated infrastructure and new onshore substation (if required). |
| White Cross Offshore Windfarm Ltd | White Cross Offshore Wind Ltd (WCOWL) is a joint venture between Cobra Instalaciones Servicios, S.A., and Flotation Energy Ltd |
| Project Design Envelope | A description of the range of possible elements that make up the Onshore Project design options under consideration. The Onshore Project Design Envelope, or 'Rochdale Envelope' is used to define the Onshore Project for Environmental Impact Assessment (EIA) purposes when the exact parameters are not yet known but a bounded range of parameters are known for each key project aspect. |
| White Cross Offshore Windfarm | 100MW capacity offshore windfarm including associated onshore and offshore infrastructure |
| Works completion date | Date at which construction works are deemed to be complete and the windfarm is handed to the operations team. In reality, this may take place over a period of time. |

24. Major Accidents and Disasters

24.1 Introduction

1. This chapter of the Environmental Statement (ES) presents a screening of the major accidents and disasters with the potential to occur in relation to the White Cross Offshore Windfarm Project (the Onshore Project). Specifically, this chapter considers the potential impact of the Onshore Project landward of Mean Low Water Springs (MLWS) during its construction, operation and maintenance, and decommissioning phases. It also outlines descriptions of the processes and measures to be implemented to ensure no significant effects arise in the event of a major accident or disaster.
2. This assessment should be read in conjunction with the following chapters:
 - **Chapter 5: Project Description**
 - **Chapter 8: Marine and Coastal Processes**
 - **Chapter 9: Marine Water and Sediment Quality**
 - **Chapter 10: Benthic and Intertidal Ecology**
 - **Chapter 12: Ground Conditions and Contamination**
 - **Chapter 14: Water Resources and Flood Risk**
 - **Chapter 15: Land Use**
 - **Chapter 16: Onshore Ecology and Ornithology**
 - **Chapter 19: Traffic and Transport**
 - **Chapter 22: Human Health**
 - **Chapter 23: Climate Change.**
3. The ES has been finalised with due consideration of pre-application consultation to date (see **Table 24.3** for comments related to this chapter and **Chapter 7: Consultation** for an overview of consultation undertaken for the Onshore Project). The ES will accompany the application to North Devon District Council for planning permission.
4. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires significant risks to the receiving communities and environment, for example through major accidents or disasters, to be considered. Similarly, significant effects arising from the vulnerability of the Onshore Project to major accidents or disasters should be considered.

24.2 Policy, Legislation and Guidance

5. **Chapter 3: Policy and Legislative Context** describes the wider policy and legislative context for the Onshore Project. The principal policy and legislation used to inform the assessment of potential impacts on major accidents and disasters for the Onshore Project are outlined in this section.

24.2.1 National Planning Policy Framework

6. The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, updated July 2021) is the primary source of national planning guidance in England. Sections relevant to this aspect of the ES are summarised below in **Table 24.1**.

Table 24.1 Summary of NPPF Policy relevant to major accidents and disasters

| Summary | How and where this is considered in the ES |
|---|--|
| <p>"Local planning authorities should consult the appropriate bodies when considering applications for the siting of, or changes to, major hazard sites, installations or pipelines, or for development around them." – NPPF, Paragraph 45</p> | <p>Section 24.2.3 presents the stakeholder consultation.</p> |
| <p>"Planning policies and decisions should promote public safety and take into account wider security and defence requirements by:</p> <ul style="list-style-type: none"> anticipating and addressing possible malicious threats and natural hazards, especially in locations where large numbers of people are expected to congregate. Polices for relevant areas (such as town centre and regeneration frameworks), and the layout and design of developments, should be informed by the most up-to-date information available from the police and other agencies about the nature of potential threats and their implications. This includes appropriate and proportionate steps that can be taken to reduce vulnerability, increase resilience and ensure public safety and security; and recognising and supporting development required for operational defence and security purposes, and ensuring that operational sites are not affected adversely by the impact of other development proposed in the area." - Paragraph 97 | <p>Section 24.4.3.3 presents the baseline and Sections 24.5 present the assessment and consideration of embedded mitigation measures.</p> <p>Further embedded mitigation is set out within the relevant ES chapters.</p> |
| <p>"Planning policies and decisions should ensure that:</p> <p>a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);</p> | |

| Summary | How and where this is considered in the ES |
|---|--|
| b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.” – NPPF, Paragraph 183 | |

24.2.2 Other Legislation, Policy and Guidance

7. There are a number of other pieces of legislation, policy and guidance applicable to the assessment of major accidents and disasters. These are outlined within this section.

24.2.2.1 Relevant Legislation

8. The screening and assessment of major accidents and disasters has been developed with reference to the following legislation:

- Health and Safety at Work etc. Act 1974
- The Management of Health and Safety at Work Regulations 1999
- Construction (Design and Management) Regulations 2015
- The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 under Schedule 3 Paragraph 1 (g)
- The Civil Contingencies Act 2004 (“the Act”)
- The UK Marine Policy Statement (“the MPS”) (Department for Environment, Food and Rural Affairs, 2011)
- Electricity at Work Regulations 1989 (No. 635)
- The Planning (Hazardous Substances) Regulations 2015
- Control Of Major Accident Hazards (COMAH) Regulations 2015.

24.2.2.2 Relevant EU Legislation

9. The screening and assessment of major accidents and disasters has been developed with reference to the following EU policy (which is incorporated into UK law by The European Union (Withdrawal) Act 2019):

- European Union (EU) Regulation 402/2013 on the Common Safety Method on Risk Evaluation and Assessment (CSM-RA) (as amended by Regulation EU 2015/1136)
- EU Regulation 2014/52 Directive on the Assessment of the Effects of Certain Public and Private Projects on the Environment.

24.2.2.3 Relevant Guidance

10. The screening and assessment of major accidents and disasters has been developed with reference to the following guidance:
 - The International Standards Organisation’s ISO 31000: (2009) Risk Management – principles and guidelines
 - Institute of Environmental Management and Assessment (IEMA) (2016). Environmental Impact Assessment (EIA) Quality Mark Article: Assessing Risks of Major Accidents/Disasters in EIA
 - IEMA (2020). Major Accidents and Disasters in EIA: A Primer
 - IEMA (2017). EIA Quality Mark Article: What is this MADness?
 - Guidelines for Environmental Risk Assessment and Management Green Leaves II, (2011), prepared by Defra and the Collaborative Centre of Excellence in Understanding and Managing Natural and Environmental Risks, Cranfield University
 - Health and Safety Executive (2015). Control of Major Accident Hazards (COMAH) Regulations.

24.2.3 National Policy Statement

11. National Policy Statements (NPSs) are statutory documents which set out the government’s policy on specific types of Nationally Significant Infrastructure Projects (NSIPs) and are published in accordance with the Planning Act 2008. Although the Onshore Project is not an NSIP, it is recognised that due to its size of 100MW and its location in English waters, certain NPS are considered relevant to the Onshore Project and decision-making and are referred to in this ES.
12. The specific assessment requirements for major accidents and disasters are set out within the overarching NPS for Energy (EN-1) as summarised in **Table 24.2**.

Table 24.2 Summary of NPS EN-1 provisions relevant to major accidents and disasters

| Summary | How and where this is considered in the ES |
|--|---|
| Overarching NPS for Energy (EN-1) | |
| “Some energy infrastructure will be subject to the Control of Major Accident Hazards (COMAH) Regulations 1999. These Regulations aim to prevent major accidents involving dangerous substances and limit the consequences to people and the environment of any that do occur. COMAH regulations apply throughout the life cycle of the facility, i.e. from the design and build stage through to decommissioning. They are enforced by the | The Onshore Project is not anticipated to be considered a COMAH site because none of the hazardous substances used on site will exceed relevant COMAH thresholds. |

| Summary | How and where this is considered in the ES |
|--|--|
| <p>Competent Authority comprising HSE and the EA acting jointly in England and Wales (and by the HSE and Scottish Environment Protection Agency acting jointly in Scotland). The same principles apply here as for those set out in the previous section on pollution control and other environmental permitting regimes.” – EN-1, Section 4.11, paragraph 4.11.3</p> | |
| <p>“Applicants seeking to develop infrastructure subject to the COMAH regulations should make early contact with the Competent Authority. If a safety report is required it is important to discuss with the Competent Authority the type of information that should be provided at the design and development stage, and what form this should take. This will enable the Competent Authority to review as much information as possible before construction begins, in order to assess whether the inherent features of the design are sufficient to prevent, control and mitigate major accidents. The IPC should be satisfied that an assessment has been done where required and that the Competent Authority has assessed that it meets the safety objectives described above.” – EN-1, Section 4.11, paragraph 4.11.4</p> | |

24.3 Consultation

13. Consultation has been a key part of the development of the Onshore Project. Consultation regarding major accidents and disasters has been conducted throughout the EIA. An overview of the project consultation process is presented within **Chapter 7: Consultation**.
14. A summary of the key issues raised during consultation specific to major accidents and disasters is outlined below in **Table 24.3** together with how these issues have been considered in the production of this ES.

Table 24.3 Consultation responses

| Consultee | Date, Document, Forum | Comment | Where addressed in the ES |
|---|------------------------------|---|---|
| Marine Management Organisation (MMO) | Scoping Opinion, 2022 | <p>The MMO does not consider that sufficient information has been presented within the Scoping Report to conclude that there would be no likely significant effects from other potential major accidents and disasters, both in respect of the vulnerability of the proposed Development to these or for the Proposed Development to cause them. The results of the review exercise completed by the Applicant should be presented in the ES. This should include a description of the sources of hazards and pathways that have been considered as part of the review process and why these have been discounted. Where likely significant effects are identified, these should be assessed in the ES. In this regard, the MMO notes that there is potential for wartime UXO to be located within the offshore scoping area and no information has been presented about their locations and potential for accidental detonation and associated impacts that could lead to a major accident or disaster.</p> <p>In addition, the potential for cumulative effects arising from major accidents and disasters in terms of inter relationships with other aspects of the Proposed Development</p> | <p>As a result of the MMO’s comments, a Major Accidents and Disasters chapter has been produced in line with the available guidance. This assessment includes natural disasters, avalanche, flooding, drought, extreme temperatures, fires, storms, air quality, biological disasters, industrial action and accidents, public disorder, war (including terrorist attacks), noxious substances and electrical failures. Details of whether each of these parameters has been scoped in or out of the assessment are discussed in Section 24.5.1.</p> <p>Details of existing baseline environment, which include the parameters discussed above, are discussed in Section 24.4.3.3. Potential hazards associated with each of the phases of the Onshore Project are discussed in Sections 24.5.</p> <p>Disturbance of Unexploded Ordnance (UXO) in Onshore Project area is scoped in to this assessment and presented in Section 24.5.3.3. Furthermore, a UXO Risk Assessment will be undertaken for the Project pre-construction.</p> |

| Consultee | Date, Document, Forum | Comment | Where addressed in the ES |
|------------------------|--|---|---|
| | | <p>and other projects should be considered, and where significant effects are likely to occur, these should be assessed within the ES.</p> <p>Section 4.5.3 of the Scoping Report sets out the Applicant’s proposed approach to the assessment of major accidents and disasters. It is stated that following a review of potential major accidents and disasters, a number of matters are proposed to be scoped into the ES as part of other aspect chapters, including coastal erosion and flood risk, accidental spills of hazardous materials, vessel collision and exposed cables leading to vessel snagging. The MMO agrees that these matters should be scoped into the ES.</p> | <p>Cumulative effects arising from major accidents and disasters in terms of inter relationships with other aspects of the Proposed Development and other projects are presented in the individual chapters within this ES.</p> <p>Embedded mitigation, design and impact avoidance measures will be implemented for the construction, operation and decommissioning phases of the Onshore Project.</p> <p>No vessels are required for the Onshore Project. Therefore, vessel collision and exposed cables leading to vessel snagging have not been considered. However, they have been considered in the separate Offshore ES.</p> |
| Natural England | Coastal Geomorphology Expert Topic Group (ETG) and associated email correspondence, 2023 | <p>Concerns were raised by Natural England with regards to the potential for adverse effects to the Taw-Torridge Estuary SSSI during the trenchless crossing below the estuary. Specific concerns relate to:</p> <ul style="list-style-type: none"> • Exit pits being located within designated sites • The potential for sink holes occurring within unconsolidated layers resulting in Bentonite breakout negatively impacting the SSSI | <p>The concerns raised by Natural England are addressed within Appendix 5.A: Outline Braunton Burrows and Taw Estuary Crossing Method Statements. This document provides further details of the proposed trenchless techniques likely to be used (Horizontal Directional Drilling (HDD) or Direct Pipe) and the depth of the crossing below the estuary bed. It outlines the location of entry and exit pits (which will be located outside the boundary of the Taw-Torridge Estuary SSSI). It provides a summary of desk-based geotechnical analysis of historical</p> |

| Consultee | Date, Document, Forum | Comment | Where addressed in the ES |
|----------------------------------|-----------------------|--|---|
| | | | <p>boreholes. that has been undertaken and will also outline geotechnical investigation to be undertaken prior to construction.</p> <p>The Applicant will undertake further consultation with Natural England (and the MMO) in advance of the commencement of construction and pre-construction geotechnical investigation.</p> |
| Ministry of Defence (MoD) | 13/06/2023 | <p>Briefing provided by MoD prior to commencement of archaeological trial trenching along the Onshore Export Cable Corridor. Extent of finds provided in UXO Brief by Deputy Training Safety Officer Dave Lincoln at Royal Marine Base Chivenor. Mapping shared identifying configuration of area when previously used as a World War Two training centre.</p> | <p>The Applicant will undertake further consultation with the MoD in advance of the commencement of construction and pre-construction geotechnical investigation.</p> |

24.4 Assessment Methodology

24.4.1 Key definitions

15. The following definitions are relevant to this chapter (Institute of Environmental Management and Assessment (IEMA), 2020):

- 'Major accidents' are defined as 'events that threaten immediate or delayed serious environmental effects to human health, welfare and/ or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome (e.g. train derailment) may be the same and therefore many mitigation measures will apply to both deliberate and accidental events.' (IEMA 2020)
- A 'disaster' is a sudden accident or natural catastrophe that causes great damage or loss of life. These can be natural or can be man-made hazards (e.g. caused by accidental loss of containment) or external hazards (e.g. act of terrorism) which result in consequences for people or the environment
- A 'receptor' refers to the specific component of the environment that could be adversely affected if the source reaches it. Environmental receptor is specifically defined as: features of the environment that are subject to assessment under Article 3 of the EIA Directive, namely population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and landscape
- 'Serious danger to human health' relates to the people present in the potentially affected areas, either permanently or for prolonged periods of time. This excludes workers operating at the facility
- 'Serious damage to human populations' is harm which would be considered substantial e.g., deaths, multiple serious injuries or a substantial number requiring medical attention
- 'Serious damage to the environment' is loss or significant detrimental impact on populations of species or organisms, harm or loss of valued sites (including designated sites), valued cultural heritage sites, contamination of drinking water supplies, ground or groundwater, or permanent or long-lasting harm to environmental receptors that cannot be restored through minor clean-up or restoration efforts
- 'As Low As Reasonably Practicable' (ALARP) is used in assessment of major accidents and disasters involves 'weighing a risk against the trouble, time and money needed to control it' noting that 'ALARP describes the level to which we expect to see risks controlled'.

24.4.2 Risk evaluation

16. For the assessment of major accidents and disasters within EIA there is no standard methodology, however, IEMA have prepared a 'Major Accidents and Disasters in EIA: A Primer' (IEMA, 2020) which provides guidance on a risk-based approach. This screening assessed the likelihood of the significant threat or hazard occurring, and the mitigation embedded to ensure a risk is ALARP or avoided completely. The risks were identified in respect to the potential vulnerability of the Onshore Project to disaster risks, and the potential of the Onshore Project to cause major accidents. The assessment methodology outlined above for major accidents and disasters therefore differs with that presented in **Chapter 6: EIA Methodology**.
17. The following steps were undertaken during the site-specific risk assessment:
 - Stage 1: Identify the hazards in a long list of possible major accidents and disasters. Major accidents or disasters with little relevance to the Onshore Project were not included (e.g. avalanches). This stage also involved the identification of the receptors in the existing environment
 - Stage 2: Screening exercise to determine which risks are relevant to the Onshore Project and required further assessment
 - Stage 3: Risk evaluation – definition of the potential impacts that may occur from the risks and classification of the likelihood that the events may occur. Identification and evaluation of prevention, minimisation and/or mitigation measures
 - Stage 4: Determination of whether the risk has been mitigated ALARP and the identification of any residual risk, and the consequences upon the receptors in the event of a major accident or disaster.
18. Major accidents and disasters, by definition are those with the potential to have serious consequences for the receptors affected. The thresholds of what constitutes a major accident or disaster varies by receptor, and the definitions of the thresholds for the relevant receptors is provided in **Table 24.4**.
19. The likelihood of a serious event occurring is examined when determining whether a hazard constitutes a major accident or disaster. Events of high consequence with a high likelihood of occurring are determined to be high risk and are unacceptable for any development and are designed out (an example may be infrastructure that did not comply with design codes causing a major failure). These are therefore outside the scope of this assessment. Low impact events which do not meet the criteria listed in **Table 24.4** are not considered a major accident or disaster and are therefore outside of the scope of this assessment.

20. The assessment therefore will focus largely on low likelihood, but potentially high consequence events. Events relating to a planned or known activity, such as noise and vibration from piling, are covered within relevant chapters of the ES, where assessment of the impacts and mitigation is provided. This chapter will identify potential low likelihood, high consequence events with the potential to occur in the Onshore Project area that may be determined to constitute a major accident or disaster. It also sets out the Onshore Projects embedded and additional mitigation in place and assess whether identified impacts have been reduced ALARP or avoided.

24.4.3 Scope

24.4.3.1 Study Area

21. The major accidents and disasters study area is defined by the distance over which impacts on identified receptors from all onshore infrastructure may occur and by the location of any receptors that may be affected by those potential impacts. Details of the location of the Onshore Project and the onshore infrastructure are set out within **Chapter 5: Project Description**.
22. The study area is limited to the Onshore Development Area for direct and indirect interaction with receptors.

24.4.3.2 Potential Receptors

23. The potential receptors relevant to this screening and assessment are provided with definitions in **Table 24.4**. The level of harm considered to represent a major accident or disaster is also presented. The thresholds have been determined using industry best practice based upon a) criteria for notification of a major accident to the competent authority under Regulation 26 of the COMAH Regulations 2015 (cited in IEMA, 2020) and b) The control of Major Accident Hazards Regulations 2015.

Table 24.4 Potential Receptors requiring consideration for major accidents and disasters

| Receptor group | Receptors included | Major accident or disaster threshold |
|---|---|---|
| Human health | <p>Local communities</p> <p>Recreational and third-party users</p> <p>Construction workers, operation and maintenance workers.</p> <p>The human health baseline is detailed in Chapter 21: Socio-Economics (including Tourism and Recreation) and Chapter 22: Human Health.</p> | <p>For the public:</p> <ul style="list-style-type: none"> Substantial number (5+) of people requiring medical attention or any serious/life-changing injuries. Potential for localised interruption to utilities and damage to infrastructure. <p>For workers:</p> <ul style="list-style-type: none"> Multiple life changing injuries or fatalities. |
| Designated Sites (International, National and Other) | <p>Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Marine Conservation Zones (MCZ), National Parks, Environmentally Sensitive Areas, Areas of Outstanding Natural Beauty, Local Nature Reserves, Local Wildlife Sites also known locally as County Wildlife Site, Sites of Importance for Nature Conservation, and Sites of Nature Conservation Importance.</p> <p>Ecologically sensitive sites are detailed in Chapter 10: Benthic and Intertidal Ecology and Chapter 16: Onshore Ecology and Ornithology.</p> <p>Designated sites located within the Onshore Project study area:</p> <ul style="list-style-type: none"> Braunton Burrows SAC and SSSI Taw-Torridge Estuary SSSI | <p>For NNRs, SSSIs, MNRs, the thresholds are:</p> <ul style="list-style-type: none"> Greater than 0.5 ha adversely affected, or greater than 10% of the area of the site affected (whichever is the lesser), or Greater than 10% of an associated linear feature adversely affected, or Greater than 10% of a particular habitat or population of individual species adversely affected. <p>For SACs, SPAs, and Ramsar sites, the thresholds are:</p> <ul style="list-style-type: none"> Greater than 0.5ha or 5% of the area of the site adversely affected (whichever is the lesser), or Greater than 5% of an associated linear feature adversely affected, or Greater than 5% of a particular habitat or population of individual species adversely affected. <p>For other designated land the threshold is:</p> |

| Receptor group | Receptors included | Major accident or disaster threshold |
|---------------------------|--|---|
| | <ul style="list-style-type: none"> Bideford to Foreland MCZ. | <ul style="list-style-type: none"> Greater than 10% or 10 ha of land damaged, whichever is the lesser. |
| Scarce Habitats | Biodiversity Action Plan habitats and Habitats of Principal Importance. | Damage to 10% of the area of the habitat or 2 ha, whichever is the lesser. |
| Widespread habitat | <p>Land/water used for agriculture, forestry, fishing or aquaculture.</p> <p>Land used for agriculture is detailed in Chapter 15: Land Use.</p> | <ul style="list-style-type: none"> Contamination of 10 ha or more of land which, for one year or more, prevents the growing of crops or the grazing of domestic animals or renders the area inaccessible to the public because of possible skin contact with dangerous substances, or Contamination of any aquatic habitat which prevents fishing or aquaculture or which similarly renders it inaccessible to the public |
| Particular species | <p>Particular species covers all species, both flora and fauna, found in the UK and includes common species, red data book species and other protected or priority species, including rare species.</p> <p>Species are detailed in Chapter 10: Benthic and Intertidal Ecology and Chapter 16: Onshore Ecology and Ornithology.</p> | <ul style="list-style-type: none"> For common species, where reliable estimates of population numbers exist, the death of, or serious sub-lethal effects within, 1% of any species would be significant For common plant species, the death of, or serious sub-lethal effects within, 5% of the ground cover would be considered a major accident For species listed in the Habitats directive annexes, the Annexes of the Birds directive, the schedules of the Wildlife and countryside Act 1981 (and amendments), all Red Data Book species and priority species under the UK biodiversity Action Plan, the threshold may be lower than 1% or 5%, and liaison with the appropriate statutory conservation organisation should be used to determine the appropriate threshold. |

| Receptor group | Receptors included | Major accident or disaster threshold |
|----------------------------------|--|---|
| | | <p>Moreover, for all species, where reliable estimates of population numbers do not exist, liaison with the statutory authority will be necessary to determine appropriate thresholds.</p> <p>Any loss of a Red Data Book species (or a Red Data Book species site).</p> |
| <p>Marine environment</p> | <p>Non-estuarine marine waters, sub-littoral zones, benthic community adjacent to the coast and fish spawning grounds.</p> <p>The marine environment is detailed in Chapter 10: Benthic and Intertidal Ecology.</p> | <p>Permanent or long-term damage to</p> <ul style="list-style-type: none"> ▪ An area of 2 ha or more of the littoral or sub-littoral zone, or the coastal benthic community, or the benthic community of any fish spawning ground, or ▪ An area of 100 ha or more of the open sea benthic community. <p>Or a count of</p> <ul style="list-style-type: none"> ▪ 100 or more dead sea birds (not gulls), or ▪ 500 dead sea birds of any species, or ▪ 5 dead or significantly injured/impaired sea mammals of any species. |

24.4.3.3 Data Limitations

24. This assessment is based on the design as set out in **Chapter 5: Project Description**. There were no limitations affecting this assessment.
25. The assessment is also dependent on information from other technical assessments within the ES which utilise third party data, as well as information from other sources. Third party information is taken at face value and no further check or validation of this information has been made.

24.4.4 Existing Environment

24.4.4.1 Current Baseline

26. The existing environment for the Onshore Project has been characterised within the previous chapters of this report. The descriptions contained within previous chapters are representative of the environment that may potentially be impacted by hazards scoped into this chapter (see **Table 24.5**). To avoid repetition please refer to the following chapters:

- **Chapter 5: Project Description**
- **Chapter 8: Marine and Coastal Processes**
- **Chapter 9: Marine Water and Sediment Quality**
- **Chapter 10: Benthic and Intertidal Ecology**
- **Chapter 12: Ground Conditions and Contamination**
- **Chapter 14: Water Resources and Flood Risk**
- **Chapter 15: Land Use**
- **Chapter 16: Onshore Ecology and Ornithology**
- **Chapter 19: Traffic and Transport**
- **Chapter 22: Human Health**
- **Chapter 23: Climate Change.**

24.4.4.2 Do Nothing Scenario

27. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 require that “*an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*” is included within the ES (EIA Regulations, Schedule 4, Paragraph 3). From the point of assessment, over the course of the development and operational lifetime of the Project (operational lifetime anticipated to be 50 years), long-term trends mean that the condition of the baseline environment is expected to evolve. This section provides a qualitative description of

the evolution of the baseline environment, on the assumption that the Onshore Project is not constructed, using available information and scientific knowledge of major accidents and disasters.

28. The do nothing scenario, or future baseline, for the Onshore Project relevant to major accidents and disasters will evolve relating to several likely factors over the Onshore Project lifecycle. Climate change is likely to lead to changes in rainfall and temperature, increased occurrences of extreme weather, and rising sea levels. Predictions for changes in climate until the end of the 21st century are available from The UK Climate Projections (UKCP, 2021). The impacts of climate change are set out in more detail in **Chapter 23: Climate Change**.
29. There are likely to be advances in technology over the lifetime of the Onshore Project, with potential for further reductions in risks to safety and the environment, or to introduce new hazards with the introduction of novel technology. Novel technologies would be implemented following appropriate risk assessment processes.

24.4.4.3 Worst-Case Scenario

30. In accordance with the assessment approach to the Project Design Envelope, or 'Rochdale Envelope', set out in **Chapter 6: EIA Methodology**, the impact assessment for major accidents and disasters has been undertaken based on a realistic worst-case scenario of predicted impacts. The relevant technical chapters to this assessment detail the worst-case scenario for each topic.
31. The Onshore Project Design Envelope for the Onshore Project is detailed in **Chapter 5: Project Description**.

24.5 Screening and Assessment of Major Accidents and Disasters

24.5.1 Stage 1

32. This section describes long list of hazards with the potential to cause major accidents and disasters during the lifetime of the Onshore Project. This has been based upon consideration of the baseline environment, the project description outlined in **Chapter 5: Project Description**, and the Scoping Opinion. Potential impacts upon major accidents and disasters have been identified and scoped in or out of the EIA. These impacts are outlined, together with a justification for why they are or are not considered further, in **Table 24.5** and **Table 24.6** respectively.
33. Also included in the assessment are instances where the Onshore Project increases the probability of a hazard occurring, or where the consequences of a hazard may

be exacerbated by the Onshore Project. Risks were identified using the National Risk Register, professional judgement, and a review of available literature.

24.5.1.1 Scoped In

Table 24.5 Summary of impacts scoped in relating to major accidents and disasters

| Potential Impact | Justification |
|---|--|
| Major Accidents | |
| Major fires | A major fire may lead to serious damage to the environment through harmful emissions to air and sea, and create a localised fire hazard, however the location away from populated areas limits the scale of impact. |
| Project Specific Hazards | |
| Accidental spills of hazardous material | The impacts would relate to the scale of the spill and the type of hazardous material. Only large scale spills with the potential to cause considerable damage to the environment is scoped in for further assessment. |
| Disturbance of Unexploded Ordnance (UXO) in Onshore Development Area | Risk of loss of life and damage to infrastructure. |
| Workplace accident | Risk of loss of life and damage to Onshore Project infrastructure and other marine users. |
| Environmental hazards | |
| Coastal flooding | The Onshore Project will be located in a coastal location. The White Cross Onshore Substation (hereafter referred to as 'Onshore Substation') is located in a Flood Zone. |
| River flooding | The Onshore Project is located in proximity to watercourses. |
| Surface water flooding | The Onshore Project is at risk of surface water flooding. |

24.5.1.1 Scoped Out

Table 24.6 Summary of impacts scoped out relating to major accidents and disasters

| Potential Impact | Justification |
|------------------------------|---|
| Environmental hazards | |
| Coastal erosion | Cables will be buried to a sufficient depth during operation to prevent them from becoming exposed in the nearshore area. |

| Potential Impact | Justification |
|--|---|
| | <p>The worst case is open trenching to bury two cables across the entire width of Saunton Sands. The trench would be excavated to a depth of 1.2m (volume of 162m³ for two cables) with a mechanical digger over an indicative period of up to 24 hours. Due to the short-term nature of the construction activity at Landfall (approx. 2 days) and the long-term (14 years) low rates of vertical change of the beach at the Landfall (0-36mm/year) means that changes to the beach would be low and temporary. After installation of the cables, the trench would be backfilled, returning the beach to its original morphology. The return of the beach to its pre-construction morphology means that short-term changes in the form and function of the coast arising from cable installation would not be significant. Hence, the overall significance of the effect under a worst case scenario on the identified morphological receptor is deemed negligible adverse and is therefore scoped out of this chapter.</p> |
| Low temperatures | <p>The project design will consider the effect of low temperatures. However, an event would have a negligible impact on the Onshore Project.</p> |
| Hurricanes and storms | <p>Damage to infrastructure from severe weather is unlikely to result in hazards with significant risk.</p> |
| Poor air quality | <p>Event would have negligible consequence on the Onshore Project.</p> |
| Drought | <p>The Onshore Project would have a low vulnerability to drought conditions.</p> |
| Wildfires | <p>The Onshore Project would have a low vulnerability to wildfires.</p> |
| Environmental disasters overseas | <p>The Onshore Project would have low vulnerability to environmental disasters overseas.</p> |
| Severe space weather | <p>Space weather is monitored and therefore can be forecast similar to other weather events. This allows for mitigation to be put into place before any effects are felt.</p> |
| Earthquake | <p>The likelihood of occurrence is considered to be low as the site is located within an area of low seismicity.</p> |
| Tsunami | <p>The likelihood of occurrence is low.</p> |
| Human and Animal Health | |
| Infectious disease epidemics and pandemic | <p>The Onshore Project would have a low vulnerability to infectious disease epidemics and pandemics.</p> |

| Potential Impact | Justification |
|--|---|
| Infectious animal disease epidemics and pandemics | The Onshore Project would have a low vulnerability to infectious animal disease epidemics and pandemics. |
| Antimicrobial resistance | The Onshore Project would have low vulnerability to antimicrobial resistance. |
| Major Accidents | |
| Widespread electricity failure and infrastructure failures | The Onshore Project would have a low vulnerability to commercial failures. |
| Commercial failures | The Onshore Project would have a low vulnerability to commercial failures. |
| Systematic financial crisis | The Onshore Project would have a low vulnerability to systematic financial crisis. |
| Industrial accidents – nuclear | The Onshore Project would have a low vulnerability to nuclear industrial accidents. |
| Societal Risks | |
| Public disorder and civil unrest | The Onshore Project would have a low vulnerability to public disorder or civil unrest. |
| Industrial action | The Onshore Project would have a low vulnerability to industrial action. |
| Malicious Attacks | |
| Attacks on publicly accessible locations, infrastructure and transport | The Onshore Project is no more vulnerable to this type of hazard than any other development |
| Conflict and wars (including terrorist attack) | The Onshore Project would have a low vulnerability to conflict and wars. |
| Cyber-attacks | Cyber-attack is unlikely to affect the Onshore Project, however cyber security measures would be put in place and kept up to date to defend against cyber-attack. |
| Small, medium and large-scale Chemical, Biological, Radiological and Nuclear (CBRN) attacks | The Onshore Project would have a low vulnerability to all CBRN attacks. |
| Undermining the democratic process | The Onshore Project is no more vulnerable to this type of hazard than any other development |
| Serious and Organised Crime | |
| Serious and organised crime – vulnerabilities, property and commodities | The Onshore Project would have a low vulnerability to serious and organised crimes. |

24.5.2 Stage 2

34. Hazards from the longlist in **Table 24.5** considered for further assessment are:

- Major Accidents:
 - Major fires
- Project Specific Hazards:
 - Accidental spills of hazardous material
 - Disturbance of UXO in Onshore Development Area
 - Workplace accident
- Environmental hazards:
 - Coastal flooding
 - River flooding
 - Surface water flooding.

24.5.3 Stage 3

35. This stage requires definition of the potential impacts that may occur from the risks and classification of the likelihood that the events may occur. Mitigation measures for each hazard are considered. Several of the hazards identified are already covered in previous chapters of this ES, details of which are provided in the following sections.

24.5.3.1 Major fires

36. There is the potential for a major fire during the construction of the Onshore Export Cable and Onshore Substation involving diesel fuel or combustible materials in the construction compound. There is the risk that this could spread to adjacent fields of crop stubble during drought conditions. This will be prevented by selecting fuel tanks of a robust design, siting them appropriately within secured compounds and providing suitable containment and ignition control. Other minor fires will be prevented through good site management practices to minimise any material build up.
37. During operation, this hazard would likely only be limited to the Onshore Substation. The risk of Onshore Substation fire is low. However, fires can impact the supply of electricity and create a localised fire hazard. The highest appropriate levels of fire protection and resilience will be specified for the substation to minimise fire risks ALARP. The small quantities of lubricants, fuel and cleaning equipment required within the Onshore Substation will be stored in suitable facilities designed to the relevant regulations and policy design guidance. As outlined in the **Appendix 5.B: Outline Construction Environmental Management Plan (OCEMP)**,

Emergency Response Plans will be developed following discussions with the Health and Safety Executive (HSE), including risk assessments and designated evacuation plans for workers in the unlikely event of fire breaking out.

38. Following the implementation of mitigation the risk of the consequences meeting the threshold for the applicable receptors is considered to be ALARP.

24.5.3.2 Accidental spills of hazardous material

39. During construction, operation and maintenance, and decommissioning the use of fuels will be required and some chemicals may be required. This hazard is relevant to the Onshore Substation and Onshore Export Cable Corridor.
40. The Applicant will commit to undertaking construction works in adherence will all relevant best practice guidance and legislation and will prepare all necessary plans in advance of construction activities. As set out in **Chapter 14: Water Resources and Flood Risk**, A Pollution Environmental Management Plan (or similar) will also be in place. This mitigation will minimise the likelihood of an accidental release and put in place procedures for an effective response to any pollution event. In addition, inert drilling fluid will be used for trenchless technique (bentonite) and cable ducting will be inert.
41. Where there is the potential for an accidental spill or leak, the focus will be on control measures that would be employed to reduce accidental releases to the environment. To ensure these are captured and implemented, the Outline CEMP (**Appendix 5.B: Outline CEMP**) will be developed further prior to construction. The CEMP will include measures for planning for accidental spills, address all potential contaminant releases and include key emergency contact details.
42. A Marine Pollution Contingency Plan (MPCP) will also be developed post-consent for works between MLWS and MHWS. The MPCP will detail the management measures to be implemented during construction, operation and maintenance, and decommissioning to mitigate the risks of accidental spills of hazardous materials in the marine environment. Measures will be put in place to reduce instances of spills, remedial action and response measures to be used in the event of a spill. These measures will prevent a release of hazardous material of a scale large enough to meet the thresholds set out in **Table 24.4** for the affected receptors and the risk is considered ALARP.

24.5.3.3 Disturbance of UXO in Onshore Development Area

43. An initial UXO Risk Assessment has been undertaken prior to archaeological trial trenching, prior to intrusive works. It concluded that there is a Low Risk from items

of German air delivered UXO, and a Medium-High Risk of Allied UXO in and near to the Onshore Development Area (1st Line Defence, 2023). The Risk Assessment incorporated consultation with the MoD.

44. The UXO Risk Assessment identified the following requirements to mitigation the Medium-High Risk of UXO:
- Geophysical UXO survey will be undertaken prior to the commencement operations that are planned within the Onshore Development Area, in order to provide the basis for a strategy of pUXO avoidance, or for its identification and removal
 - A Non-Intrusive Magnetometer Survey will be undertaken using a man-portable magnetometer. Data will be recorded and then interpreted to map magnetic fields and model discrete magnetic anomalies which may show the characteristics of UXO. The anomalies can then be investigated by a target investigation team. Where this type of survey is not practical (due to for example terrain or ground conditions), on-site UXO specialist support is recommended
 - Unexploded Ordnance (UXO) Specialist Presence on Site to support intrusive works and open excavations will be present to:
 - Monitor works using visual recognition and instrumentation, including immediate response to reports of suspicious objects or suspected items of ordnance that have been recovered by the ground workers on site
 - Provide UXO awareness briefings to any uninformed staff and advise staff of the need to modify working practices to take account of the ordnance risk
 - To aid incident management which would involve liaison with the local authorities and police should ordnance be identified and present an explosive hazard
 - A site-specific UXO Risk Management Plan for the management of UXO risk be written will be developed. This plan should be kept on site and be referred to in the event that a suspect item of UXO is encountered at any stage of the project. It should detail the steps to be taken in the event of such a discovery, considering elements such as communication, raising the alarm, nominated responsible persons etc.
 - Any contractor involved in intrusive works will be equipped with UXO specific Emergency Response plans, so that in the event of an unplanned UXO discovery the contractor is informed in advance about what safety actions must be taken.
45. A Unexploded Ordnance Risk Mitigation Strategy will be developed post-consent and will detail the site-specific approach to:

- Avoidance - a strategy of potential unexploded ordnance (pUXO) detection and avoidance is proposed as the most cost effective and efficient method of reducing UXO risks to ALARP. By surveying for and avoiding direct or indirect contact with any pUXO (the source of the risk) and by moving any intrusive activity away from such prospective hazards (where practicable), such risks are avoided
- Removal of risk receptors - an alternative option is to remove the receptor element (of the source-pathway-receptor model), by moving certain sensitive and vulnerable receptors (typically the construction workforce), to a safe distance from the point of the intrusive activity and thus the pUXO hazard, so that it will diminish sufficiently the prospective blast, fragmentation and/or shock wave consequences, in order to reduce UXO risks to ALARP
- Removal of Threat Sources - Where pUXO cannot be avoided, another alternative option, is to verify pUXO by investigation and where it is confirmed unexploded ordnance (cUXO), to destroy and remove it (effectively removing the source element of the source-pathway-receptor model).

46. With the mitigation outlined in this section implemented, the risk of a major accident occurring due to this hazard is determined to be ALARP.

24.5.3.4 Workplace accident

47. Other workplace accidents which could lead to major accidents will be avoided by means of training of personnel and ensuring that all personnel have all required qualifications, that qualifications are maintained, and that regular project specific information (e.g. toolbox talks) is promulgated to staff. All equipment, plant and vehicles will be fit for purpose and maintained as required. In addition to training, all necessary requirements for dealing with accidents (first aid equipment, firefighting equipment) would be in place to deal with workplace accidents/incidents.

48. With all of the above in place the risk is considered ALARP.

24.5.3.5 Coastal flooding

49. Based on the information provided by the Environment Agency (detailed in **Appendix 14.C: Flood Risk Assessment**), it has been confirmed that the principal source of flood risk to the Onshore Substation is tidal/coastal flood risk from the Taw Estuary. Additionally at the Landfall, works have the potential to affect the tidal/coastal flood risk

50. On this basis utilising the Upper End allowance for the Onshore Substation, in 2075, the Finished Floor Level (FFL) would need to be set 300mm above the 6.43m AOD

Still Water Level. This would result in a FFL of 6.73mAOD. Consultation with the Environment Agency has indicated there are concerns regarding wave action up the Taw Estuary in the future. Whilst the Onshore Substation is not located immediately to the rear of the coastal frontage and is afforded some protection by the Tarka Trail, the potential risk to the Onshore Substation platform has been considered within **Appendix 14.C: Flood Risk Assessment**. As such, additional design mitigation has been included for the Onshore Substation platform.

51. On the basis of the above, the Environment Agency has requested that a freeboard of 600mm above the water level for the 1 in 200 year (0.5% AP) event is applied. Given that 300mm freeboard is provided by setting the Onshore Substation platform at 6.73mAOD, it is proposed that the additional 300mm freeboard is provided within the detailed design of the Onshore Substation.
52. Therefore, it is proposed that the exterior of the Onshore Substation building is designed using flood resistant materials, thereby limiting flood water ingress into the building and providing protection to the electrical equipment and infrastructure contained within it.
53. With the additional design mitigation in place the risk of a major accident occurring due to this hazard is determined to be ALARP.

24.5.3.6 River flooding

54. At the northern end of the Onshore Export Cable Corridor there is a proposed access road from the B3231. It crosses over Sir Arthur's Pill which is Main River in this location and in this location would pass through Flood Zone 3. The use of trenchless techniques has been embedded in the Onshore Project design for Main Rivers, and as such the impact on flood risk in these locations would be relatively low.
55. With the embedded mitigation in place the risk of a major accident occurring due to this hazard is determined to be ALARP.

24.5.3.7 Surface water flooding

56. A review of the Environment Agency surface water flood mapping for the Onshore Export Cable Corridor and Onshore Substation indicates there are areas of varying low to high risk of surface water flooding throughout the Onshore Development Area. These are associated with topographical low points close to the tidal frontage, and land drains crossing the rural land to the rear of the tidal frontage as well as around the Onshore Substation.

57. There are some areas at high risk of surface water flooding along the Onshore Export Cable Corridor, but these are associated with the watercourses within the area covered by the Braunton Marsh Internal Drainage Board (IDB). This area is actively managed by the Braunton Marsh IDB and as part of the water level management in this area, water levels in the ditches are deliberately retained at higher levels for key periods throughout the year.
58. It is noted that the Onshore Export Cable Corridor will only be at risk of surface water flooding during the construction phase of the Onshore Project. Any surface water flood risk to the Onshore Export Cable Corridor will be temporary in nature and removed once construction is complete as all Onshore Infrastructure associated with the Onshore Export Cables will be located below ground. Following construction of the Landfall and Onshore Export Cables there will be no permanent above ground elements, except for the proposed link boxes which will, where possible, be located adjacent to field boundaries and in accessible locations. Additionally, it is proposed that drainage will be reinstated to match the existing baseline conditions. As such there would be no impact on surface water drainage. Furthermore, all temporary construction compounds and temporary access tracks will be fully reinstated and would have no operational use.
59. Given there is a risk of flooding from surface water at the location of the Onshore Substation, this will be subject to the development of an Outline Surface Water Drainage Strategy (see **Appendix 5.B Outline CEMP**) to be submitted as part of the Onshore Project planning application.
60. With the embedded mitigation in place the risk of a major accident occurring due to this hazard is determined to be ALARP.

24.5.4 Stage 4

61. At this stage, hazards are considered to whether the risk has been mitigated as ALARP and the identification of any residual risk, and the consequences upon the receptors in the event of a major accident or disaster. The results of the Stage 4 assessment are provided in **Table 24.7**.

Table 24.7 Summary of Potential Hazards Relating to the Project

| Hazard/activity | Source | Pathway | Receptor Groups | ES Chapter(s) / Document Addressing this Risk | Embedded mitigation | Risk of Major Accident or Disaster After Mitigation |
|--|---|---------|--|---|--|---|
| Major fires | A major fire may lead to serious damage to the environment through harmful emissions to air and sea, and create a localised fire hazard | Direct | <ul style="list-style-type: none"> • Human health • Designated Sites • Scarce Habitats • Widespread habitat • Particular species. | N/A – an Emergency Response Co-operation Plan (ERCoP) and Project Environmental Monitoring Plan (PEMP) will be developed post-consent | <p>ERCoPs will be developed following discussions with the Maritime Coastguard Agency, including risk assessments and designated evacuation plans for workers on board in unlikely event of fire breaking out.</p> <p>Development of a PEMP will outline safety measures to reduce the risk of a major accident or disaster resulting from substation fires.</p> | Risk is ALARP |
| Accidental spills of hazardous material | Accidental spills of hazardous material | Direct | <ul style="list-style-type: none"> • Human health • Designated Sites • Scarce Habitats • Widespread habitat • Particular species. | N/A - PEMP and MPCP (for works between MLWS and MHWS) will be developed post-consent | A PEMP will be produced and followed to cover the construction, operation and maintenance phases of the Onshore Project. This will include planning for accidental spills, address all potential contaminant releases and include key emergency contact details. | Risk is ALARP |

| Hazard/activity | Source | Pathway | Receptor Groups | ES Chapter(s) / Document Addressing this Risk | Embedded mitigation | Risk of Major Accident or Disaster After Mitigation |
|---|--------------------|---------|--|--|--|---|
| | | | | | MPCP will set the management measures to be implemented during construction, operation and decommissioning to mitigate the risks of accidental spills of hazardous materials. Measures to reduced instances of spills, remedial action and response measures to be used in the event of a spill between MLWS and MHWS. | |
| Disturbance of UXO in Onshore Development Area | Disturbance of UXO | Direct | <ul style="list-style-type: none"> • Human health • Designated Sites • Scarce Habitats • Widespread habitat • Particular species. | Information on the intended pre-construction campaigns is outlined in Chapter 5: Project Description. | <ul style="list-style-type: none"> • Implementation of UXO clearance campaign prior to construction. • A Risk Mitigation Strategy will be developed as part of the UXO Risk Assessment. This includes mitigation strategies to avoid pUXOs in the first instance, removing risk receptors or threat sources if required. | Risk is ALARP |

| Hazard/activity | Source | Pathway | Receptor Groups | ES Chapter(s) / Document Addressing this Risk | Embedded mitigation | Risk of Major Accident or Disaster After Mitigation |
|---------------------------|----------------------------|---------|---|---|--|---|
| Workplace accident | Workers undertaking a task | Direct | Human health | N/A - PEMP will be developed post-consent | <ul style="list-style-type: none"> • Personal Protective Equipment (PPE) • Guard Vessels • Inspection and Maintenance Programme • Training. | Risk is ALARP |
| Coastal flooding | The sea | Direct | <ul style="list-style-type: none"> • Human health • Widespread habitat. | <p>Chapter 14: Water Resources and Flood Risk</p> <p>Appendix 14.C: Flood Risk Assessment</p> | <ul style="list-style-type: none"> • Flood warning and evacuation plan • Freeboard of 600mm above the water level for the 1 in 200 year (0.5% AP) event is applied. • The exterior of the Onshore Substation building will be designed using flood resistant materials, thereby limiting flood water ingress into the building and providing protection to the electrical equipment and infrastructure contained within it. | Risk is ALARP |

| Hazard/activity | Source | Pathway | Receptor Groups | ES Chapter(s) / Document Addressing this Risk | Embedded mitigation | Risk of Major Accident or Disaster After Mitigation |
|-------------------------------|--------------------------------------|---------|--|---|---|---|
| River flooding | Main Rivers or Ordinary Watercourses | Direct | <ul style="list-style-type: none"> Human health Widespread habitat | <p>Chapter 14: Water Resources and Flood Risk</p> <p>Appendix 14.C: Flood Risk Assessment</p> | <ul style="list-style-type: none"> Trenchless crossing below Main Rivers Site-specific risk assessment to be undertaken for trenched crossing of Ordinary Watercourses | Risk is ALARP |
| Surface water flooding | Rainfall | Direct | <ul style="list-style-type: none"> Human health Widespread habitat | <p>Chapter 14: Water Resources and Flood Risk</p> <p>Appendix 14.C: Flood Risk Assessment</p> <p>Appendix 5.C: Outline Drainage Strategy</p> | <ul style="list-style-type: none"> A Surface Water Drainage Strategy will be developed from Appendix 5.C: Outline Drainage Strategy once the final design of the Onshore Substation is decided. It will comply with Environment Agency allowances for climate change. | Risk is ALARP |

24.6 Summary

62. Consideration of the likely significant effect for potential major accidents and disasters during the construction, operation and maintenance and decommissioning phases of the Onshore Project has been carried out following available guidance and legislation.
63. Mitigation measures are embedded into the construction, operation, maintenance and decommissioning phases of the Onshore Project and, alongside use of industry safety standards, will act to minimise the impacts on the relevant receptors identified. With a commitment to the highest health and safety standards in design and working practices enacted, none of the anticipated construction works or operational procedures is expected to pose an appreciable risk of major accidents or disasters. The residual risk for hazards scoped in for further assessment are considered to be ALARP.

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