

Appendix 20-1: Long List of Risk Events for Major Accidents and Disasters

Calderdale Energy Park

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Table of content

A20 APPENDIX 20-1: LONG-LIST OF RISK EVENTS FOR MAJOR ACCIDENTS AND DISASTERS	3
Table A20-1: Long-List of Major Accidents and Disasters Risk Events	4

A20 Appendix 20-1: Long-List of Risk Events for Major Accidents and Disasters

Table A20-1: Long-List of Major Accidents and Disasters Risk Events

Risk Event	Discussion and Initial Appraisal of Risk Event	Taken Forward for Further Assessment
Terrorism		
International terrorist attack with strategic implications	Due to the nature of the Proposed Development (as a wind farm), and based on known terrorist acts to-date, it is not considered to attract or increase the likelihood of international terrorist activities. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No
Terrorist attacks in publicly accessible locations	The PEIR Boundary is located in a rural area and does not fall within the definition of a crowded place (e.g. sports arenas, retail outlets and entertainment spaces where large numbers of people gather), which are typical locations for terrorist attacks. The Proposed Development is unlikely to attract large crowds during construction, operational and maintenance and decommissioning phases and, as such, it is unlikely to be a target for this type of event due to the low number of exposed targets. Therefore, the risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No
Terrorist attacks on transport	Due to the nature of the Proposed Development (as a wind farm), it would not fall under the typical range of potential targets (e.g. railways, buses, passenger ferries, cargo vessels and aircraft) and has a low number of exposed targets. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No
Conventional attacks on infrastructure	Terrorists in the UK have previously attacked, or planned to attack, national infrastructure. These attacks resulted in significant damage and disruption but relatively few casualties. The Proposed Development is unlikely to be a	No

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	<p>target for this type of event due to the distance of separation between the individual infrastructure components and the low number of exposed targets (such as people gathering in large crowds). The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.</p>	
<p>Cyber-attacks on infrastructure</p>	<p>Cyber-attacks occur frequently on key national and commercial electronic information, control systems and digital industries. The increasing reliance on technology to control the Proposed Development, rather than manual control of systems could make it more vulnerable to a cyber-attack. The Proposed Development is not considered to be more vulnerable to attack than the existing baseline and similar infrastructure installed and running in the UK. However, it is unlikely that there would be a direct attack on telecommunication or operating systems directly as part of the Proposed Development due to its nature (as a wind farm), which is not connected to wider national telecommunication or operating systems. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.</p>	<p>No</p>
<p>Accidents and System Failures</p>		
<p>Rail accident</p>	<p>The Proposed Development is located circa 4.3km to the north of the nearest railway line (the Calder Valley Line between Halifax and Todmorden) and circa 4.5km north of Hebden Bridge Station. Due to these distances, it is unlikely that there will be any impacts on this railway line or station. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.</p>	<p>No</p>

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Accident involving high-consequence dangerous goods	Significant transport accidents occur across the UK on a daily basis, mainly on roads, and involving private and/or commercial vehicles. During the construction phase, there will be an increase in heavy plant and equipment (including Abnormal Indivisible Loads) on the road network, which may increase the risk of accidents. Operational traffic has been 'scoped out' due to the very low number of movements during this phase (in line with Chapter 14: Transport and Access).	Yes. (Note that this is also considered within Chapter 14: Transport and Access).
Aviation collision	The wind turbines within the Proposed Development are up to 200m in height to tip and they are located in proximity to a number of airports and are situated in an area allocated for daytime Low Flying Area for the UK Military.	Yes. (Note that impacts on aerodromes are considered within Chapter 19: Aviation and Radar).
Malicious drone incident	The use of drones has increased significantly in recent years, although malicious drone incidents are infrequent within the UK and have largely been associated with airports to date. Given this, due to the nature of the Proposed Development (as a wind farm), it is highly unlikely that a drone attack will take place. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No
National/regional failure of the electricity network	Instances of electricity failure (also referred to as power loss or blackout) can be caused by a number of things, such as severe weather (e.g. very strong winds, lightning and flooding), which damage the distribution network. These tend to be mainly specific to a particular locality (e.g. a metropolitan area) and less frequently regional (e.g. Yorkshire and the Humber) and very rarely on a more national scale. Electrical transmission lines are present within the PEIR Boundary, the responsibilities of which lie with the relevant local operator or company, should this infrastructure fail. In	No

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	<p>the event of power outages during construction and decommissioning, portable/backup generators would be used to ensure that the tasks/activities are safely completed or halted. It is anticipated that the activities during these phases will not be reliant on a mains connection. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.</p>	
<p>Accidental fire or explosion at an onshore Major Accident Hazard Site</p>	<p>Operators of these sites have a legal duty to prevent accidental large toxic releases from occurring and to mitigate their consequences. The HSE also develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil these responsibilities effectively. Therefore, there are stringent controls and management regimes in place at the nearby Major Accident Hazard Sites in line with relevant regulatory requirements. Given the nature of the Proposed Development (as a wind farm) and its rural location, there would also be no ‘domino effects’ (i.e. the risk of accidental release of sufficient quantities of combustible gases to result in fire and / or explosion at neighbouring industrial facilities). The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.</p>	<p>No</p>
<p>Accidental large toxic chemical release from an onshore Major Accident Hazard Site</p>	<p>Operators of these sites have a legal duty to prevent accidental large toxic releases from occurring and to mitigate their consequences. The HSE develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil these responsibilities effectively. Therefore, there are stringent controls and management regimes in place at the nearby Major Accident Hazard Sites in line with relevant regulatory requirements. Given the nature of the Proposed Development (as a wind farm) and its rural location, there would also be no ‘domino effects’. The risk</p>	<p>No</p>

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	is considered to be highly unlikely and this risk event is not taken forward for further assessment.	
Accidental fire or explosion at an onshore major accident hazard pipeline	The PEIR Boundary is known to be in the vicinity of Major Accident Hazard Pipelines and there will be ground works during the construction phase and there is a potential risk. The exact location of these will be confirmed in the ES following further desk-based survey.	Yes
Reservoir/dam collapse	The Proposed Development is located within proximity to a number of reservoirs (Walshaw Dean Lower, Middle and Upper Reservoirs, Widdop Reservoir, Watersheddles Reservoir and Gorple Lower and Upper Reservoirs). However, the infrastructure within the Proposed Development is predominantly located further up the slope/catchment from the reservoirs. No direct works will be undertaken on the reservoirs. There is a legal requirement for all owners of large raised reservoirs to have on-site emergency flood plans. Reservoir owners, local authorities and local resilience forums (LRFs) have emergency plans and produce locally specific off-site flood plans from reservoir flood maps. The Environment Agency leads operational preparedness and response to flood impacts and, during local-level operation responses, would work as part of a multi-agency team, coordinated through the LRF, drawing on resources including the National Flood Asset Register, which has over 100 specialist flood rescue teams on standby to be deployed across the country. The joint DEFRA/ Cabinet Office National Flood Response Centre would coordinate the national UK response. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No

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Water infrastructure failure or loss of drinking water	Instances of water infrastructure failure can be caused by a number of events, such as severe weather or flooding. Water infrastructure is present within the PEIR Boundary. The responsibilities for the operation and maintenance of this infrastructure lie with the relevant local operator. As water companies in England are required to plan for disruptive scenarios, in the event of infrastructure failure, water companies will implement a number of mitigations including rezoning of their network, tankering water from alternative treatment sites, the use of mutual aid from other water companies and the provision of an alternative water supply to affected consumers as soon as possible, but within 24 hours. In addition, water may be tankered for use onsite and therefore would not be reliant on a mains connection. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No
Natural and Environmental Hazards		
Volcanic eruption	There are no volcanoes in the UK. While there are volcanoes from neighbouring countries that can cause impacts in the UK, these relate to impacting visibility for aviation. The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No
Tropical cyclones or tsunamis	The UK is not considered to be at substantial risk of tropical cyclones or tsunamis. The Proposed Development will not increase the risk of tropical cyclones or tsunamis due to its nature (as a wind farm). The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	No
Earthquakes/ seismic activity	The UK does experience seismic activity. However, the majority of incidents are considered a low magnitude and are experienced only locally. The	No

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	Proposed Development will not increase the risk of earthquakes or seismic activity due to its nature (as a wind farm). The risk is considered to be highly unlikely and this risk event is not taken forward for further assessment.	
Storms and gales	The UK regularly experiences storms, including high winds and precipitation and consequential impacts in terms of tree fall. The UK also regularly experiences lightning strikes and electrical storms. The Proposed Development will not give rise to storms, nor increase the likelihood of these events from occurring. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No. However, related effects (fire/wildfire from lightning and wind turbine collapse) are 'scoped in' for further assessment.
High temperatures and heatwaves	The UK increasingly experiences periods of high temperatures and heatwaves. The Proposed Development will not give rise to high temperatures or heatwaves. During operation, the infrastructure will be designed to withstand high temperatures, including the use of nacelle ventilations and cooling for electronics. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No
Low temperatures and snow	The UK experiences periods of low temperatures and 'coldwaves'. The Proposed Development will not give rise to low temperatures or coldwaves. Due to the elevation of the Proposed Development, it is anticipated to experience a higher amount of snow on average compared to areas of lower elevation across the UK. During operation, the infrastructure will be designed to withstand low temperatures. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No. However, related effects (ice throw) are 'scoped in' for further assessment.

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Fluvial flooding	This risk event is addressed within Chapter 10: Hydrology, Hydrogeology, Geology and Peat . Further details will be provided in the ES.	This is addressed within Chapter 10: Hydrology, Hydrogeology, Geology and Peat
Surface water flooding	This risk event is addressed within Chapter 10: Hydrology, Hydrogeology, Geology and Peat . Further details will be provided in the ES.	This is addressed within Chapter 10: Hydrology, Hydrogeology, Geology and Peat
Drought	Over the past few decades, England has experienced a number of droughts, including over the summer of 2025. The Proposed Development will not give rise to droughts or increase the likelihood of drought. Due to the elevation of the Proposed Development, it is anticipated to experience higher levels of rainfall on average compared to areas of lower elevation across the UK. However, the Proposed Development is not specifically vulnerable to drought as water is not an essential requirement during the construction, operational and maintenance or decommissioning phases. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No
Poor air quality	The area of the Proposed Development is not known to experience regular dust or sandstorms. The Proposed Development is predominantly located in a rural setting, which is not known to experience poor air quality (as indicated in Chapter 16: Air Quality) and is not located within or in proximity to an Air Quality Monitoring Area. The Proposed Development is also not specifically vulnerable to poor air quality as this is not an essential	No

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	requirement during the construction, operational and maintenance or decommissioning phases. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	
Human, Animal and Plant Disease		
Pandemic	The Proposed Development will not give rise to any pandemics due to its nature (as a wind farm). The spread of a pandemic would be controlled by the UK Government through a series of measures. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No
Animal disease outbreak	The Proposed Development will not give rise to any disease epidemics due to its nature (as a wind farm). The spread of such diseases would be controlled by the UK Government through the containment of infected animals and the prohibition of their transportation. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No
Plant pest / disease outbreak	The Proposed Development will not give rise to any disease epidemics due to its nature (as a wind farm). The spread of such diseases would be controlled by the UK Government through the containment of infected plants and the prohibition of their transportation. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.	No
Societal		
Public disorder	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no	No

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	<p>direct border with countries experiencing conflicts. The Proposed Development is unlikely to give rise to public disorder due to its nature (as a wind farm). The Proposed Development is also not located near densely populated areas or an area that would attract a mass gathering of people. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.</p>	
Industrial action	<p>The Proposed Development is unlikely to give rise directly to industrial action due to its nature (as a wind farm). All phases will involve a specialist team of workers and as such, the risk of industrial action impacting the Proposed Development is unlikely. As there is no credible source – pathway – receptor linkage, this risk event is not taken forward for further assessment.</p>	No
Development-Specific Risk Events		
Fire	<p>In April and May 2011 numerous wildfires broke out across the UK after unusually hot and dry weather. England received only 21% of its usual rainfall for April 2011.</p> <p>Given the nature of the Proposed Development, there is a potential risk of fire during all phases. Given its location in an upland moorland environment and the presence of flammable habitats (including peat and heather), fires have the potential to cause wildfires.</p>	Yes
Effects related to onsite activities, such as dropping equipment and	<p>All works will be undertaken in accordance with relevant legislation, standards and guidance, including the Construction (Design and Management) Regulations 2015. However, given the nature of the</p>	Yes

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falls from working at height	Proposed Development (as a wind farm) and therefore the requirement to work at height, there is potential risk during all phases.	
Utilities/services strike	A number of utilities are known to be present within the PEIR Boundary. There is a potential risk of striking these assets during construction and decommissioning works.	Yes
Subsidence and unstable ground	The Proposed Development is located in an area where there are potential ground instability hazards present. Therefore, there is a potential risk associated with subsidence and unstable ground during the construction and decommissioning phases.	Yes. Note that risks associated with peat instability are addressed in the Preliminary Peat Landslide Hazard Risk Assessment (PPLHRA) (Appendix 10-4).
Unexploded Ordnance (UXO)	The Proposed Development is located in an area classified as having a low risk of UXO being present. There is a potential risk during the construction and decommissioning of encountering a UXO due to the intrusive activities during these phases.	Yes
Chemical release	Small quantities of chemicals (e.g. lubricants, fuel and cleaning equipment) will be required onsite during the construction, operational and maintenance and decommissioning phases. Therefore, there is a potential risk of chemical release during all phases.	Yes
Ice throw	Ice throw is the process of ice falling or being launched from the blades of a wind turbine when operational. Given the nature of the Proposed	Yes

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	Development (as a wind farm), there is a potential risk of ice throw during operation.	
Wind turbine collapse	Wind turbines can collapse due to extreme wind, aeroelastic effects, blade malfunctions as well as issues with the structural integrity of the columns during operation. Given the nature of the Proposed Development (as a wind farm), there is a potential risk of wind turbine collapse during operation.	Yes

