

APPENDIX 4.2. MAJOR ACCIDENTS AND DISASTERS TECHNICAL NOTE

Introduction

Regulation 4(2) of the Town & Country Planning EIA (Wales) Regulations 2017 requires that the EIA must include 'the expected effects deriving from the vulnerability of the proposed development to risks of major accidents and disasters that are relevant to that development'.

Regulation 17(3) additionally requires in Schedule 4 'Information for inclusion in environmental Statements... A description of the likely significant effects of the development on the environment resulting from, inter alia—...the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); ...'.

The purpose of this technical note is to assess the potential for significant risks to the environment associated with the vulnerability of the Proposed Development to major accidents and disasters. The scope is interpreted as requiring the consideration of low likelihood/high consequence events which would result in serious harm or damage to environmental receptors. This includes accidents or disasters originating from a Proposed Development as well as external events (man-made or natural).

Further consideration of the scope of the methodology for the assessment of potential significant risks and vulnerability of the Proposed Development to major accidents and disasters, as discussed with Neath Port Talbot Council, is provided in the Major Accidents and Disaster EIA Scoping Note provided in Appendix 4.1.

Relevant guidance

There is no statutory guidance for the assessment of major accidents and disasters as an EIA topic, however an advice note (as a primer to formal guidance) produced by the Institute of Environmental Management and Assessment (IEMA) entitled Major Accidents and Disasters in EIA: A Primer (IEMA, 2020) provides guidance based on current EIA practice within the UK.

Key definitions relevant to the topic are as follows:

- A **major accident** is an event (for instance, train derailment or major road traffic accident) that threatens immediate or delayed serious environmental effects to human health, welfare and/or the environment and requires the use of resources beyond those of the client or its appointed representatives (i.e. contractors) to manage. Major accidents can be caused by disasters resulting from both man-made and natural hazards; and
- A **disaster** is a man-made/external hazard (such as an act of terrorism) or a natural hazard (such as an earthquake) with the potential to cause an event or situation that meets the definition of a major accident.

The IEMA Primer identifies that consideration be given to whether a Proposed Development has a vulnerability to major accidents and/or disasters and to consider whether the development alone or in conjunction with an externally driven incident could cause or result in a significant effect. The

scope of major accidents and disasters focuses on low likelihood but potentially high consequence events.

In line with this approach, the following are excluded from the scope of major accidents and disasters assessment:

- Events that have a high likelihood of occurring and that would be of high consequence: these events would be high risk and would be considered unacceptable for any development and would be required to be designed out;
- Low-impact events whatever the likelihood, such as minor spills: these would be of low risk and would be dealt with under environmental management systems; and
- Occupational health and safety (risks to construction and operational workers). Various legislation is in force to ensure the protection of workers in the workplace including the Construction (Design and Management) Regulations 2015 (CDM); the Management of Health and Safety at Work Regulations 1999; the Workplace (Health, Safety and Welfare) Regulations 1992; and Health and Safety at Work etc. Act 1974 (HSWA).

The IEMA Primer notes that in order for there to be potential for major accidents and / or disasters to occur there needs to be an impact pathway applying the source ⇒ pathway ⇒ receptor model. Similarly, the IEMA Primer advises that major accidents and/or disasters can be scoped out of the EIA as a standalone ES chapter if it can be clearly demonstrated that all possible major accidents and/or disasters are adequately covered elsewhere in the assessment or are covered by existing design measures or compliance with legislation and best practice.

There are three potential sources of major accidents and disasters identified in the IEMA Primer which have been considered:

1. Sources of hazard that could result in a major accident and/or disaster from the development internally;
2. Interaction of the development with any external sources of hazard; and
3. Where the presence of the development would increase the risk of significant environmental effect to an environmental receptor occurring as a result of an external man-made or natural hazard.

In considering the potential for significant effects from major accidents and disasters, it is important to note that the UK already has a structured framework of risk management legislation in place. Therefore, vulnerability to major accidents and/or disasters for infrastructure and other built environment developments in the UK is usually already managed by a wide range of other safety and non-safety-related legislation. Internal and external vulnerabilities to major accidents and/or disasters is therefore intrinsic to the design of the development.

Similarly, it is a requirement of the EIA Regulations to provide a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment. The risk of significant environmental effects to a environmental receptors occurring as a result of an external man-made or natural hazard is therefore addressed within the ES technical chapters.

Potential for major accidents and disasters

The potential for major accidents and disasters is actively managed on the Site to comply with the relevant health and safety regulations as set out in **ES Chapter 2: Project Description**. As set out in ES Chapter 2, reports and consents that will be required for the proposed development include updates to the Safety Report and Environmental Contingency Plan/Environmental Emergency Plan (ECP/EEP), a Hazardous Substances Consent, an Environmental Permit (including emergency response plans), and CDM requirements including hazard identification studies ((HAZID) and hazard and operability studies (HAZOP). These statutory requirements are intrinsic to the design and operation of the Proposed Development. With these intrinsic requirements in place it is concluded that there are no likely foreseeable impact pathways for construction or operational phase health and safety effects relating to major accidents and/or disasters as a result of the Proposed Development.

Other factors of the environment assessed elsewhere in the ES have considered the potential for likely significant effects on receptors as detailed in **ES Chapters 6 to 14**. As required by the EIA regulations, the potential for interaction of multiple impacts on common receptors has also been assessed in **ES Chapter 15 Cumulative Effects**. The assessments are based on an assessment of current baseline conditions, but also consider potential for likely significant effects to receptors associated with future baseline conditions, such as a change in carrying capacity of the natural environment or changing climatic conditions.

Potential impact pathways on environmental receptors are assessed in detail in **ES Chapters 6 to 15**. A summary of the potential for vulnerabilities to major accidents and/or disasters relating to these impact pathways is provided in **Table 1** below. Where there is potential for likely significant effects in relation to the potential for major accidents and/or disasters, the impact pathway is summarised and identified for further consideration herein.

Table 1: Summary of potential for vulnerabilities to major accidents and/or disasters where identified elsewhere in the ES

Factor of the Environment	Potential vulnerability to major accidents and/or disasters (including summary of impact pathways where covered elsewhere in the ES)	Potential for likely significant effects resulting from major accidents and/or disasters (Y/N)
Air quality	<p>ES Chapter 6 Air quality has concluded no significant effects as a result of the Proposed Development.</p> <p>Fugitive dust from demolition and construction related activities would be managed through a Construction Environmental Management Plan or Dust Management Plan to control any significant effects. Air quality impacts from construction traffic and plant would result in negligible or beneficial air quality effects at human receptors.</p> <p>Impacts at ecological receptors were generally beneficial. Best Available Techniques and a pre-existing Air Quality Management Plan will be used to control dust emissions from the Proposed Development when operational. Residual effects will be not significant.</p> <p>It is therefore concluded that there are no air quality</p>	N

Factor of the Environment	Potential vulnerability to major accidents and/or disasters (including summary of impact pathways where covered elsewhere in the ES)	Potential for likely significant effects resulting from major accidents and/or disasters (Y/N)
	related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	
Noise and vibration	ES Chapter 7 Noise has concluded no significant construction or operational effects as a result of the Proposed Development.	N
Biodiversity	ES Chapter 8 Biodiversity has concluded there would be impacts during construction of the Proposed Development on habitats that primarily include open mosaic habitat, but a bespoke habitat creation scheme will set out proposals for the creation of new open mosaic habitat. Enhancement of the southern fields, will continue to provide foraging habitat for bats and breeding / foraging habitat for birds. Reptiles are present on-site, but with mitigation, construction works will have no negative impact on the population. Similarly, during the operation phase there would be no additional negative residual effects on ecology. It is therefore concluded that there are no biodiversity related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	N
Water quality, quantity or availability	ES Chapter 9 Surface water, flood risk and drainage has concluded mostly negligible or minor (not significant) effects during the construction and operational phases with no requirement for additional mitigation measures. Positive operational effects have been assessed relating to water quality to Swansea Bay WFD Waterbody and on water quality receptors as a result of a reduction of water abstraction volumes and reduced risk of pollution and/or sedimentation to waterbodies. A risk of negligible negative effects is also identified, with particular regards to potential pollution and water quality impacts during the construction phase. It is therefore concluded that there are no surface water, flood risk and drainage related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	N
Land quality	ES Chapter 10 Land, soil and groundwater has concluded that in terms of land and soil, these features are not considered to be sensitive at the site, and with respect to groundwater features these are of medium sensitivity, which could be used as a local water resource. During the construction of the Proposed Development, embedded mitigation measures associated with standard construction management are considered sufficient to avoid impacts, with no significant construction phase residual effects and with no additional mitigation measures required. During the operation phase of the Proposed Development, the potential impacts to the identified receptors are negligible or minor effect, as a	N

Factor of the Environment	Potential vulnerability to major accidents and/or disasters (including summary of impact pathways where covered elsewhere in the ES)	Potential for likely significant effects resulting from major accidents and/or disasters (Y/N)
	result of mitigation or adherence to regulatory practices and permit requirements, reducing potential impacts. There are no significant operational phase residual effects and with no additional mitigation measures required. It is therefore concluded that there are no land, soil and groundwater related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	
Cultural heritage	Chapter 11 Cultural heritage has concluded that there is potential for the Proposed Development to physically and permanently adversely affect historic assets during construction and operation, but the residual effects are not significant. It is therefore concluded that there are no cultural heritage related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	N
Traffic and transport	ES Chapter 12 Traffic and transport has concluded no significant road traffic related environment effects during the construction or operation phase of the Proposed Development. It is therefore concluded that there are no traffic and transport related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	N
Climate change mitigation and adaptation	ES Chapter 13 Climate change has concluded that the impacts on greenhouse gas emissions as a result of the change from blast furnaces to electrification of steel making would have a major beneficial significant effect. With respect to climate resilience, the climate change ES chapter has concluded no significant effects in relation to physical risks (wind speed, water availability or ground conditions), with negligible adverse effects on water resources and flood risk. ES Chapter 8 Biodiversity concludes, with respect to climate change resilience, significant beneficial effects to coastal floodplain grazing marsh, open mosaic habitat, other habitats, invertebrates and invasive non-native species, through retention where possible, habitat restoration and enhancement, implementation of the CEMP and LEMP, and biodiversity net benefit. It is therefore concluded that there are no climate change related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	N
Human health	ES Chapter 14 Socio-economics and health has concluded that during construction and operation of Proposed Development there would be changes in direct, indirect and induced employment, changes in education, skills and training provision, and changes in health	N

Factor of the Environment	Potential vulnerability to major accidents and/or disasters (including summary of impact pathways where covered elsewhere in the ES)	Potential for likely significant effects resulting from major accidents and/or disasters (Y/N)
	outcomes for the local population. While these changes are considered significant with respect to socio-economics and health, this does not imply any vulnerabilities for an impact pathway that could be considered a major accident or disaster as a result of the Proposed Development. It is therefore concluded that there are no socio-economics and health related vulnerabilities to major accidents and/or disasters as a result of the Proposed Development.	
Cumulative effects	Chapter 15: Cumulative effects	

Conclusion

The potential for major accidents and disasters is actively managed on the site to comply with the aforementioned health and safety regulations. Reports and consents that will be required for the Proposed Development include updates to the Safety Report and ECP/EEP, a Hazardous Substances Consent, an Environmental Permit (including emergency response plans), and CDM requirements (HAZID and HAZOP). These statutory requirements are intrinsic to the design and operation of the Proposed Development Site and are therefore considered sufficient safeguards against major accidents and disasters occurring within the Site.

As summarised in Table 1 no likely impact pathways have been identified in the ES, indicating no further potential for vulnerabilities to major accidents and/or disasters on the environment as a result of the Proposed Development.

Given the statutory requirements intrinsic to the design and operation of the Proposed Development outlined above, and given that no other likely impact pathways for major accidents and disasters have been identified herein, it is concluded that major accidents and disasters has been sufficiently addressed with regards to the requirements of the EIA Regulations and should be scoped out of detailed EIA as standalone ES chapter.