A1 Northumberland
Alnwick to Ellingham

Preliminary Environmental Information Report
Appendix C - Major Accidents and Hazards

February 2019

MAJOR ACCIDENTS AND HAZARDS

As required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, the ES will:

- Consider the potential vulnerability of the Scheme to risks of major accidents and / or disasters that are relevant to the Scheme (referred to as major events).
- Identify major events and determine whether with the mitigation measures they as low as reasonably practicable.

Major events can be natural or man-made and may include:

- Severe weather e.g. floods; earthquakes, hurricanes, storms, drought, tsunamis, extremes of temperature – hot and cold;
- Transport accidents e.g. rail accidents, motorway pileups, plane crash;
- Industrial e.g. explosions, pollution, fire;
- Terrorism;
- Disease outbreaks; and
- Electricity, gas, water supply or sewerage system failures.

Guidance

There is currently no published guidance on the assessment of major events within the context of EIA. However, the assessment will take account of existing good practice and guidance such as Defra (2011) 'Guidelines for Environmental Risk Assessment and Management[13] and the Cabinet Office's 'National Risk Register of Civil Emergencies'[14].

Sensitive Receptors

The following receptors are likely to be considered, but could change as the EIA progresses:

- Members of the public and local communities;
- Infrastructure and the built environment;
- The natural environment, including ecosystems, land and soil quality, air quality, surface and groundwater resources and landscape;
- The historic environment, including archaeology and built heritage; and
- The interaction between the factors above.

Assessment Methodology

The assessment will consider the construction and operation (including maintenance) of the Scheme.

The potential for identified relevant major accident and / or disaster events to result in a significant adverse environmental effect will be evaluated using a risk based approach. The approach will consider the environmental consequences of a Risk Event, the likelihood of these consequences

[13] Defra (2011), Guidelines for Environmental Risk Assessment and Management: Green Leaves III, Cranfield University and Department for Environment, Food and Rural Affairs, November 2011.
[14] Cabinet Office, National Risk Register of Civil Emergencies, 2017 Edition.

occurring, taking into account planned design and embedded mitigation, and the acceptability of the subsequent risk to the environment. The process to be followed will include:

- identifying risks;
- screening these risks;
- defining the impact;
- assessing the likelihood; and
- then assessing the risk.

In order to define the sensitive receptors and the Scheme's vulnerability to a major event, baseline data will be collated from other relevant environmental topics within the ES, in particular Climate, Population and Health, Biodiversity, Health, Geology and Soils and Road Drainage and the Water Environment. Furthermore, a review of risk registers for the Scheme will be undertaken to inform the baseline. The baseline will comprise:

- Features external to the Scheme that contribute a potential source of hazard to the Scheme (for example flood risk areas).
- Sensitive environmental receptors at risk of significant effect.
- Current (without the Scheme) major accident and disaster risks (for example flooding and traffic collision risks).

The methodology will include three main stages, as follows:

- **Stage 1:** Develop a long list of all possible major events within a 5 km study area (based upon professional judgement). This list will draw upon a variety of sources, including the UK Government's Risk Register of Civil Emergencies. This stage will also include an initial review of potential sensitive receptors. This long list will be developed based upon professional judgement in consultation with Highways England, together with the site location, study area, nature of the Scheme, likelihood of occurrence, surrounding land uses and Scheme risk registers.
- **Stage 2:** Undertake a screening exercise to review the long list of major events and to 'screen out' any major event not relevant to the Scheme. All major events that do not have a source[15]: pathway[16]; receptor[17] will be screened out. Those screened in will be taken forward for further assessment as a short list of major events.
- **Stage 3:** Consider mitigation and design measures that could reduce the vulnerability of the Scheme to major events. Where mitigation is unable to remove the potential interaction between a major event and a specific environmental topic, the relevant topic specific ES chapter will identify the potential consequence for receptors covered by the topic, and give a qualitative evaluation of the significance of effect as a result of a major event.

The significance of effects will be based upon professional judgement and will consider:

- Geographic extent of the effects.

[15] the original cause of the hazard, which has the potential to cause harm
[16] the route by which the source can reach the receptor
[17] the element of the environment that could be adversely affected, if the source reaches it

- Duration of the effects (effects which are permanent (i.e. irreversible) or long lasting will be considered significant).
- Severity of the effects in terms of number, degree of harm to those affected and the response effort required (effects that trigger the mobilisation of substantial civil emergency response effort are likely to be considered significant).
- Sensitivity of the identified receptors.
- Effort required to restore the affected environment (effects requiring substantial clean-up or restoration efforts are likely to be considered significant).

All major events identified at Option Selection will be included on the Scheme Risk Register, unless closed out through design.