East Midlands Gateway
Phase 2 (EMG2)

Document DCO 6.20/MCO 6.20

ENVIRONMENTAL STATEMENT

Main Statement

Chapter 20

Major Accidents and Disasters

October 2025

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The East Midlands Gateway Phase 2 and Highway Order 202X and The East Midlands Gateway Rail Freight and Highway (Amendment) Order 202X

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20. Major Accidents and Disasters

Contents

20.1. Introduction

20.1.1. This Chapter of the ES presents the findings of the assessment undertaken concerning potential impacts of the EMG2 Project and its component parts on major accidents and disasters (MAD) matters and all associated risk activities. The assessment is based on the project description set out in **Chapter 3: Project Description** (**Document DCO 6.3/MCO 6.3**), including the development parameters set out in **Table 3.5** of that Chapter.

20.1.2. In brief, the EMG2 Project comprises three main components which are detailed in **Table 20.1** below. This Chapter reports the assessment of the potential vulnerability of the EMG2 Project and its component parts to MAD during construction and operation.

Table 20.1: The EMG2 Project Components

Main Component	Summary of Component	Works Nos.
DCO Application made by the DCO Applicant for the DCO Scheme		
EMG2 Works	Logistics and advanced manufacturing development located on the EMG2 Main Site south of East Midlands Airport and the A453, and west of the M1 motorway. The development includes HGV parking and a bus interchange. Together with an upgrade to the EMG1 substation and provision of a Community Park.	DCO Works Nos. 1 to 5 including relevant Further Works as described in the draft DCO (**Document DCO 3.1**). DCO Works Nos. 20 and 21 including relevant Further Works as described in the draft DCO (**Document DCO 3.1**).
Highway Works	Works to the highway network: the A453 EMG2 access junction works (referred to as the EMG2 Access Works); significant improvements at Junction 24 of the M1 (referred to as the J24 Improvements), works to the wider highway network including the Active Travel Link, Hyam's Lane Works, L57 Footpath Upgrade, A6 Kegworth Bypass/A453 Junction Improvements and Finger Farm Roundabout Improvements.	DCO Works Nos. 6 to 19 including relevant Further Works as described in the draft DCO (**Document DCO 3.1**).
MCO Application made by the MCO Applicant for the MCO Scheme		
EMG1 Works	Additional warehousing development on Plot 16 together with works to increase the permitted height of the cranes at the EMG1 rail-freight terminal, improvements to the public transport interchange, site management building and the EMG1 Pedestrian Crossing.	MCO Works Nos. 3A, 3B, 5A, 5B, 5C, 6A and 8A in the draft MCO (**Document MCO 3.1**).

20.1.3. In recognition that this Chapter forms part of a single ES covering both the DCO Scheme and the MCO Scheme, it makes a clear distinction between the component parts and, consistent with the dual application approach**,** separately assesses the impacts arising from:

i. the DCO Application (Section 20.5);

ii. the MCO Application (Section 20.6);

iii. the DCO Application and the MCO Application together as the EMG2 Project (Section 20.7); and

iv. an assessment of the cumulative impacts of the EMG2 Project with other existing and, or approved developments (Section 20.8)

20.1.4. The assessment of the cumulative impacts of the EMG2 Project with other existing and, or approved developments was completed using the list of projects identified in **Appendix 21B** to **Chapter 21: Cumulative Impacts** (**Document DCO 6.21B/MCO 6.21B**).

20.1.5. The relevant appendices to this Chapter are:

- **Appendix 20A: Major Accidents and Disasters Long List** (**Document DCO 6.20A/MCO 6.20A**)
- **Appendix 20B: ES Risk Record** (**Document DCO 6.20B/MCO 6.20B**)
- **Appendix 20C: Aerodrome Safeguarding Report (Document DCO 6.20C/MCO 6.20C**)

20.1.6. This Chapter:

- Outlines the scope and methodology of the assessment;
- Describes relevant policy, legislation and guidance;
- Presents the environmental baseline relevant to the MAD assessment for each component of the EMG2 Project;
- Describes the embedded mitigation measures;
- Presents the potential environmental effects on MAD arising from the EMG2 Project;
- Identifies any assumptions and limitations encountered in compiling the environmental information; and
- Highlights any necessary monitoring and/or mitigation measures that could prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process.

20.2. Scope and Methodology of the Assessment

20.2.1. The MAD assessment of the EMG2 Project and its component parts has been undertaken in line with the policy, legislation and guidance described in Section 20.3 below. The methodology is the same for the DCO Scheme and the MCO Scheme, and the assessment of the EMG2 Project as a whole.

20.2.2. Key definitions for this Chapter are provided in **Table 20.2** below. These definitions have been developed by reference to the definitions used in the policy, legislation and guidance noted in Section 20.3 below as well as professional judgement in the context of the EMG2 Project.

Table 20.2: Definitions

Key term	Definition
(Major) Accident	An event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will consider the extent, severity and duration of harm and the sensitivity of the receptor.
Adaptive Capacity	The capacity of receptors to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.
ALARP	"ALARP" stands for "as low as reasonably practicable". Reasonably practicable involves weighing a risk against the trouble, time and money needed to control it. Therefore, ALARP describes the level to which the HSE expects to see workplace risks controlled.
Disaster	A naturally occurring phenomenon such as an extreme weather event (for example storm, flood, temperature) or ground-related hazard events (for example subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident as defined above.
External Influencing Factor	A factor that occurs beyond the limits of the EMG2 Project that may present a risk to the EMG2 Project, e.g., if an external disaster occurred (e.g., earthquake, COMAH site major accident) it would increase the risk of serious damage to an environmental receptor associated with the EMG2 Project.
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these.
Internal Influencing Factor	A factor that occurs within the limits of the EMG2 Project that may present a risk to the EMG2 Project.
Magnitude of Impact	The magnitude of an impact is typically defined by the following factors: • extent – the area over which an effect occurs;

Key term	Definition
	• duration – the time for which the effect occurs; • frequency – how often the effect occurs; and • severity – the degree of change relative to existing conditions.
MAD Group	A MAD which can be grouped as either a Natural Hazard (Disaster) or Technological or Manmade Hazard (Major Accident).
MAD Category	A set of values used to categorise events within a related parent MAD Group, such as Geophysical or Industrial and Urban Accidents.
MAD Type	A set of values used to sub-categorise events within a MAD Category, such as Major Accident Hazard sites.
Risk	The likelihood of an impact occurring combined with effect or consequence(s) of the impact on a receptor if it does occur.
Risk Event	An identified, unplanned event, which is considered relevant to the EMG2 Project and has the potential to be a Major Accident and/or Disaster subject to assessment of its potential to result in a significant adverse effect on an environmental receptor.
Sensitivity	The sensitivity of a receptor is a function of its value, and capacity to accommodate change reflecting its ability to recover if it is affected. It is typically defined by the following factors: • Adaptability – the degree to which a receptor can avoid, adapt to or recover from an effect. • Tolerance – the ability of a receptor to accommodate temporary or permanent change. • Recoverability – the temporal scale over and extent to which a receptor will recover following an effect.
Vulnerability	In the context of the EIA Regulations, the term refers to the 'exposure and resilience' of the EMG2 Project to the risk of a MAD. Vulnerability is influenced by sensitivity, adaptive capacity and magnitude of impact.

20.2.3. To date, there is no regulatory guidance on how to consider MAD within the context of an EIA. However, the assessment takes account of guidance noted in Section 20.3 of this Chapter. The assessment of MAD has been achieved through a review of available documentation and regulatory requirements. The assessment does not involve assessment from 'first principles' as it is recognised that existing legislation and health and safety requirements already identify risks and help to protect human beings and the environment.

20.2.4. The assessment presents any identified risks along with whether these are managed to be ALARP or require further precautionary mitigation actions beyond those already integrated into the design and execution of the EMG2 Project.

20.2.5. The potential for identified relevant MAD to result in a significant adverse environmental effect have been evaluated using a risk-based approach. The approach has considered the environmental consequences of a MAD, the likelihood of these consequences occurring, considering planned design and embedded mitigation, and the acceptability of the subsequent risk to the relevant receptor. The following process has been applied to each of the MAD categories included for assessment:

- Identifying risks,
- Screening these risks;
- Defining the impact;
- Assessing the risk; and
- Appraising risk management options.

20.2.6. This is explained further below and covered in the Appendices provided with this Chapter.

Baseline data

20.2.7. A desk-based data collection exercise has been undertaken, including a review of available information, to determine the baseline conditions.

20.2.8. The key sources of information used to determine the baseline for MAD are:

- National Risk Register of Civil Emergencies;
- British Geological Survey (BGS) GeoIndex Onshore;
- International Disaster Database;
- Health and Safety Executive's (HSE) Planning Advice Web App;
- HSE's COMAH 2015 Public Information Search;
- Ordnance Survey mapping;
- Google aerial and street view maps; and
- Technical topics as detailed in **Chapters 5 to 19** of this ES (**Documents DCO 6.5 – 6.19/MCO 6.5 – 6.19**).

Sensitive receptors

20.2.9. In line with Schedule 4 of the EIA Regulations, the following sensitive receptors are considered with respect to MAD:

- 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.

20.2.10. The specific potential receptors of effects resulting from MAD within those categories are reported in the relevant other ES Chapters (5 to 19) (**Documents DCO 6.5 – 6.19/MCO 6.5 – 6.19**).

20.2.11. Excluded receptors include:

- Staff of the Applicant and/or their suppliers, whether during the construction or operation phase of the EMG2 Project due to an employer's commitment and obligations to manage risks to employees are addressed in the Health and Safety at Work etc. Act 1974.
- Members of the public who are wilfully trespassing; for example, a breach of the EMG2 Project perimeter fencing. Defined as outside the occupier's legal requirements under the Occupiers' Liability Act 1984.

Identifying risks

20.2.12. Low consequence events, whatever their likelihood, do not meet the definition of MAD as defined in the IEMA guidance. For example, minor spills which may occur during construction, but will be limited in area and volume and temporary in nature, do not meet the definition of a major accident. Such minor events are to be avoided in the first instance and will be dealt with by the measures included in the CEMP provided as **Appendix 3A** (**Document DCO 6.3A**) and do not fall within the scope of this assessment.

20.2.13. High likelihood and high consequence events also do not meet the definition of MAD as the risk assessment and design process will identify and avoid or design out such risks. In addition, activities which fall into this category are highly regulated to minimise the risk to be ALARP.

20.2.14. This assessment focuses on low and very low likelihood, but potentially high consequence events.

20.2.15. Low likelihood events are defined, for the purposes of this assessment, as those which may occur during the lifetime of the EMG2 Project: no more than once in 10 years for the construction phase; and no more than once in 100 years for the operation phase. This is an upper boundary for low likelihood.

20.2.16. Very low likelihood events are also included in the assessment, which may only occur at most once in every 1,000 years. Mitigation measures will reflect what is reasonable for such rare events, considering their potential consequence, within the guiding principle of risks being ALARP.

20.2.17. High consequence events are considered as those having the potential to lead to a significant adverse effect should they occur. This remains the same for both very low and low likelihood events.

20.2.18. The risk identification process has used existing sources of information, wherever possible, such as risk assessments undertaken for the EMG2 Project as part of other processes (many of which are required by law) or Risk Events identified within the UK's current National Risk Register. No additional risk assessments have been undertaken, and the risk identification activity has focused on collating and reviewing existing sources of information.

20.2.19. To identify whether a Risk Event has the potential to be a MAD event, which also has the potential to have a significant adverse effect on an environmental receptor, three components need to be present: a source, a pathway (between source and receptor) and a receptor. As such, and as recommended by DEFRA's 2011 Guidelines, the assessment uses the following conceptual model:

- The source is the original cause of the hazard, which has the potential to cause harm;
- The pathway is the route by which the source can reach the receptor; and
- The receptor is the specific component of the environment that could be adversely affected, if the source reaches it.

20.2.20. Risk Events which do not have all three components have been scoped out from further assessment. A full account of risk events scoped out from further assessment is provided in **Appendix 20A: Major Accidents and Disasters Long List** of this ES (**Document DCO 6.20A/MCO 6.20A**).

Screening Risks

20.2.21. The following MAD screening process has been used to identify those Risk Events that will require further consideration within the assessment:

- Is there a potential source, and/or pathway and/or receptor? If not, no further assessment required;
- Is there a relevant environmental receptor present in the locations where the Risk Event could occur, and a pathway whereby the source of harm can reach the receptor? If not, no further assessment required; and
- Could the potential impact on the environmental receptor result in a potential for a significant adverse effect? If not, no further assessment required.

20.2.22. For those Risk Events which are not screened out during the three-step process, the following assessment methodology has been used. See **Appendix 20A: Major Accidents and Disasters Long List** of this ES (**Document DCO 6.20A/MCO 6.20A**). The assessment forms the basis for recommending additional mitigation measures, as appropriate.

Mitigation measures

20.2.23. Several mechanisms are in place to reduce the vulnerability of the EMG2 Project to MAD or to mitigate significant effects on the environment should they occur. The measures to manage and reduce the risk of significant adverse effects occurring due to the vulnerability of the EMG2 Project to MAD, which are considered to be embedded mitigation measures for the purposes of the assessment, are:

- The construction stage(s) of the EMG2 Project will be managed through the implementation of a construction phase plan (required under the CDM Regulations 2015) and the P-CEMPs which will be drafted in accordance with the principles set out in the CEMP for the DCO Application (as per Requirement 11 of the draft DCO (**Document DCO 3.1**)) and in the construction management framework plan for the MCO Application (as per Requirement 11 of the EMG1 DCO); and
- The design, installation, commissioning, operation and maintenance of plant, drainage systems, equipment, and machinery, including associated systems, will consider Good Engineering Practice.

20.2.24. Risk mitigation options fall into the following categories:

- Eliminate (or 'avoid') the risk by adopting alternative processes to eradicate the source of the hazard or remove the receptor.
- Reduce the risk by adapting proposed processes such that either the likelihood or the impact of the Risk Event can be decreased.
- Isolate the risk by using physical measures to ensure that should the Risk Event occur, it can be effectively isolated such that there is no pathway.
- Control the risk by ensuring that appropriate measures are in place (for example emergency response) so that should a Risk Event occur, it can be controlled and managed appropriately. The mitigation hierarchy of repair and compensate any significant damage to environmental receptors may then apply following a control measure.
- Exploit the risk if it presents potential benefits or new opportunities.

20.2.25. As safety risks will be required to be adequately addressed within the regulatory framework for the EMG2 Project, it is not anticipated that significant residual effects, in terms of safety risks, will be identified as an output of the assessment.

20.2.26. A reasonable worst-case environmental impact(s) has been identified for each Risk Event included for assessment based on professional judgement and the findings of Chapters 5 to 19 of this ES (**Documents DCO 6.5 – 6.19/MCO 6.5 – 6.19**).

20.2.27. Impacts have been identified in consultation with relevant disciplines for each environmental factor assessed within this ES. The environmental impacts are identified through a qualitative process that seeks to answer the question 'could this event constitute a major accident or disaster in terms of the definitions provided?'. Where relevant, specific sensitive receptors around the EMG2 Project are considered, the Risk Record provided as **Appendix**

20B: ES Risk Record (**Document DCO 6.20B/MCO 6.20B**) records the outcome of this process.

20.2.28. The likelihood of the reasonable worst-case environmental effect(s) occurring has been evaluated considering the following:

- The likelihood of the Risk Event occurring considering the measures already embedded into the design and execution of the EMG2 Project; and
- The likelihood that an environmental receptor is affected by the Risk Event.

20.2.29. Likelihood assessments evaluate whether the effect (for example, loss of life) is a possible outcome of the Risk Event.

20.2.30. This evaluation refers to existing risk assessments as well as consultation with relevant discipline specialists.

20.2.31. The assessment of the risk has been carried out in line with the IEMA guidance.

20.2.32. Where likely significant adverse effects are identified, mitigation measures must be in place, commensurate with the likelihood of the event occurring. The assessment considers, in consultation with relevant environmental topics, whether the risk to the environmental receptor is managed to be ALARP with the embedded mitigation measures. If gaps are identified, where the embedded mitigation measures do not represent management of risks to an environmental receptor to be ALARP, then additional measures will be required. The Risk Record presented in **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B/MCO 6.20B**) records the outcome of the assessment.

Significance criteria

20.2.33. By definition, a major accident and/or disaster would have a major significant effect on the environment. Accordingly, any risks that could result in a MAD without suitable mitigation, management or regulatory controls in place will be assessed as significant. The determination of significance is based on professional judgement and the baseline receptors reported in Chapters 5 to 19 of this ES (**Documents DCO 6.5 – 6.19/MCO 6.5 – 6.19**).

Study area

20.2.34. MAD types both within and outside the DCO Scheme and MCO Scheme have been assessed, along with potential internal and external influencing factors. The following factors and their associated distances of influence from the EMG2 Project boundary were adopted for setting the Study Area:

20.2.35. Manmade features:

- Airports and airfields within approximately 13km (the legal distance of the safeguarding zone for licensed airports in the UK);
- Control of Major Accident Hazard facilities within 5km;
- Major accident hazard pipelines within 500m;

- Fuel retail sites (including Liquified Natural Gas, Liquified Petroleum Gas) within 1km;
- Rail infrastructure within 500m; and
- Transmission (gas, electrical, oil/fuels) crossing the EMG2 Project boundary.

20.2.36. Natural features with the potential to create risks within:

- 3km (chiefly hydrological and geological, for example dam failure and seismic activity respectively); and
- 1km (chiefly hydrological and geological, for example flood risk and unstable ground conditions respectively).

Limitations and assumptions

20.2.37. The limitations, uncertainties, and assumptions made in assessing the vulnerability of the EMG2 Project to a MAD are as follows:

- The design of the EMG2 Project and its implementation is guided by other industry standards and codes, many of which are mandatory. These require infrastructure and systems to be designed so that risks to people and the environment are either eliminated or reduced to levels that are ALARP. This has therefore been based on qualitative judgement, where the detail of those measures is not known at this time and are to be approved post consent.
- Environmental effects associated with unplanned events that do not meet the definition of a major accident and/or disaster e.g., flood risk which is assessed in **Chapter 13: Flood Risk and Drainage** of this ES (**Document DCO 6.13/MCO 6.13**) or bird strikes which are assessed in **Chapter 9: Ecology and Biodiversity** of this ES (**Document DCO 6.9/MCO 6.9**).

Consultation

20.2.38. Key consultation discussions are summarised in **Tables 20.3** and **20.4** below, together with details of how these issues have been considered in the production of this ES and cross-references to where this information may be found.

Table 20.3: Response to the Scoping Opinion adopted by the Planning Inspectorate on 24 September 2024 (Document DCO 6.1D/MCO 6.1D)

PINS ID	Ref	Description / Theme	PINS Comments	Response to comments
3.0.4	Table 5.1	Aerodrome safeguarding	The Applicant proposes to scope out effects on aerodrome safeguarding on the basis that a drainage design and a bird strike assessment would be included with the DCO. No	Information and assessment of drainage is provided in **Chapter 13: Flood Risk and Drainage** of this ES and its associated

PINS ID	Ref	Description / Theme	PINS Comments	Response to comments
			measures are defined in the Scoping Report. The Inspectorate notes that the Proposed Development is adjacent to East Midlands Airport. Scoping Report Chapter 11 also states that the drainage design for the EMG2 Works would potentially incorporate surface water storage and a series of swales and basins. The Inspectorate therefore considers that in the absence of details at this stage on the measures to control bird strike risk, that aerodrome safeguarding cannot be scoped out of the assessment. The ES should therefore include a description of any potential hazards to air safety. This should cross refer to the assessment of major accidents and disasters. Please also therefore refer to ID 3.0.7 of this Scoping Opinion.	technical appendices. Information and assessment of bird strikes is provided in **Chapter 9: Ecology and Biodiversity** of this ES and its associated technical appendices**.** The nature, location and extent of potential hazards and risks are described in this ES chapter. All control measures and delivery mechanisms secured are described.
3.0.7	Table 5.1	Vulnerability to major accidents or disasters	The Scoping Report proposes to scope out vulnerability to major accidents and disasters on the basis that the Proposed Development will introduce a logistics and industrial development into an area with similar land uses, and that construction practices would adhere to good practice guidance. The Inspectorate notes that the Proposed Development lies adjacent to East Midlands Airport and within the consultation zone of one Major Hazard Site. Given the nature and scale of the Proposed Development and its potential to result in increased populations near these facilities, and as the	Risks associated with the location of the EMG2 Project in proximity of East Midlands Airport and within the consultation zone of one Major Hazard Site are considered within this chapter. An assessment of the vulnerability of the EMG2 Project to MAD during construction and operation is presented in **Appendix 20A: Major Accidents and Disasters Long List** of this ES (**Document DCO 6.20A/MCO 6.20A**) and **Appendix 20B:**

PINS ID	Ref	Description / Theme	PINS Comments	Response to comments
			nature and types of major accidents or disasters have not been defined in the Scoping Report, the Inspectorate does not agree to scope this aspect out. The ES should include a risk assessment that sets out the potential risks from and vulnerability of the Proposed Development to, major accidents and disasters. The ES should also include details of the proposed response plans to any identified risks and details of how these would be secured within a DCO.	**ES Risk Record** of this ES (**Document DCO 6.20B/MCO 6.20B**). MAD relevant embedded mitigation measures adopted as part of the EMG2 Project are outlined in this chapter.
N/A	HSE's land use planning advice	HSE's consultation distances and risk assessment	The consultation zones for Major Hazard Site H4798 (Gasrec Ltd, Zone B East Midlands Gateway, DE74 2DL) are almost fully encompassed by the north section of the proposed development footprint. It is unclear from the information provided whether this major hazard site is an integral part of the previous EMG1. The EIA scoping report, in Section 5.9, states that Vulnerability to major accidents or disasters and population and human health impacts are factors that could to be scoped out of the EIA at this stage. However, given that the development could result in increased populations in the vicinity of this major site, for example section 4.7 indicates that one of the alterations to the existing EMG1 is the extension of the management suite, the location of additional people in the vicinity of this major hazards site should be given further consideration. At this stage there is insufficient information with regards to	Risks associated with the location of the EMG2 Project being within the consultation zone of one Major Hazard Site is considered within this chapter. Drafts of this Chapter were included in the material that was subject to statutory consultation and additional consultation. HSE's feedback on this ES chapter was requested but no response has been received.

PINS ID	Ref	Description / Theme	PINS Comments	Response to comments
			the location of people associated with the development in relation to the major hazards site to provide further comment. It would be beneficial for the applicant to undertake a risk assessment as early as possible to satisfy themselves that their design and operation will meet the requirements of relevant health and safety legislation as design of the Proposed Development progresses.	
N/A	HSE's land use planning advice	Guidance	Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role in NSIPs is summarised in the Planning Inspectorate's Advice Note 11 'working with public bodies in the infrastructure planning process' Annex G Nationally Significant Infrastructure Projects - Advice Note Eleven, Annex G: The Health and Safety Executive - GOV.UK (www.gov.uk).	The guidance used to support the assessment within this chapter is listed in Section 20.3 below.

Table 20.4: Response to Statutory Consultation

Summary of Consultation Comments	Response to Comments
UK Health Security Agency requested that appendices are included to support the Chapter and provide details of Assessment.	These appendices were included in the additional consultation material consulted on in July 2025.
The Manchester Airport Group (East Midlands Airport) (MAG) noted that	Advice from MAG Aerodrome Safeguarding was requested by SEGRO on 5th February 2025 on

Summary of Consultation Comments	Response to Comments
the airport is subject to aerodrome safeguarding matters, principally including: Obstacle Limitation Surface and Instrument Flight Procedures. Bird and Wildlife Control. Electromagnetic Interference. Air Traffic and Communication Systems. Lighting. Glint & Glare. It is noted that enforceable measures will be required to protect and safeguard the safe operation of the airport and aircraft in the surrounding airspace.	aerodrome safeguarding matters with specific regards to protective provisions. Protective provisions applicable to aerodrome safeguarding in favour of East Midlands Airport are included in Part 6 of Schedule 13 of the draft DCO (**Document DCO 3.1**). Identical provisions were contained in the EMG1 DCO and will apply to the proposed development the subject of the MCO Application. A Management Strategy for the Safeguarding of East Midlands Airport has been produced **(Appendix 20C: Aerodrome Safeguarding Report (Document DCO 6.20C/MCO 6.20C)** to demonstrate that the proposed development at EMG2 has been assessed with full regard to the principles and technical safeguarding requirements outlined in Civil Aviation Authority (CAA) CAP 738 – Safeguarding of Aerodromes (Issue 3, October 2020), and to provide assurance that the safe operation of East Midlands Airport will not be compromised by the proposed works. Information and assessment of drainage is provided in **Chapter 13: Flood Risk and Drainage** of this ES (**Document DCO 6.13/MCO 6.13**). Information and assessment of bird strikes is provided in **Chapter 9: Ecology and Biodiversity** of this ES (**Document DCO 6.9/MCO 6.9**). The nature, location and extent of potential hazards and risks are described in this ES chapter. All control measures and delivery mechanisms secured are described in Section 20.5 below for the DCO Application. An assessment of the vulnerability of the EMG2 Project to MAD during construction and operation is presented in **Appendix 20A: Major Accidents and Disasters Long List** of this ES (**Document DCO 6.20A/MCO 6.20A**) and **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B/MCO 6.20B**). A summary is also provided in Section 20.7.
Mainline Pipelines Limited (MLP) does not wish to make any comments to Statutory Consultation as the MLP pipeline route is outside the red line boundary of the site.	Noted
The utility provider GTC has no existing infrastructure within the	Noted

Summary of Consultation Comments	Response to Comments
vicinity of the order limits and therefore no objections to proposed development. Should you require further information about anything please do not hesitate to contact us.	
The Coal Authority stated that as the site does not fall within areas of past, present or future coal mining. As identified in Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009, there is no requirement to consult with the Coal Authority further on this project.	Noted
National Highways provided comments on the Construction Traffic Management Plan and Sustainable Transport Strategy and Framework Travel Plan.	Details of this consultation and responses are provided in **Chapter 6: Traffic and Transportation** of this ES (**Document DCO 6.6/MCO 6.6**). A Construction Traffic Management Plan for the DCO Application (contained within the CEMP (**Document DCO 6.3A**)) and Sustainable Transport Strategy and Framework Travel Plan for the EMG2 Main site are provided as part of the DCO Application in **Appendices 6.6B and 6.6C** to this ES (**Documents DCO 6.6B and 6.6C**). The MCO Scheme will operate under the EMG1 DCO Construction Management Framework Plan, Sustainable Transport Strategy and Framework Travel Plan.
The Environment Agency noted that fire, firewater and drainage thereof is not discussed with in the draft Environmental Statement. They further note that Firewater can contaminate surface and groundwater if not appropriately managed. Noting that this can occur during both the construction and operation phases.	This Chapter lists the embedded mitigation pertinent to the assessment of MAD. The Chapter notes in **Table 20.6** below that an Emergency Preparedness and Response Plan will be prepared for the EMG2 Project which will consider the risks associated with fires or other risks impacting the EMG2 Project and the potential for the EMG2 Project to be an ignition source for a fire or risk to cause external damage. In addition, the design of the EMG2 Project will incorporate fire suppression systems with sufficient volumes of firewater as required. Firewater will be drained using the proposed drainage network and contaminants will be controlled and disposed of. The drainage strategy includes use of full retention separators on the services yards, that will allow for the plots to be isolated from the downstream drainage infrastructure in the event of a spillage. These

Summary of Consultation Comments	Response to Comments
	would also offer a level of defence to pollutants resulting from fire. Additionally, the SuDS basins will have penstocks, so runoff can be retained within the wider site SuDS network should the capacity of the separators be exceeded. Any firefighting water from the separators or SuDS would need to be removed by a specialist - to an appropriate treatment facility.

20.3. Policy, Guidance and Legislative Context

20.3.1. This section of the chapter is common to both the DCO Application and the MCO Application.

Policy

20.3.2. The National Policy Statement for National Networks (March 2024) (NPS) has been considered, particularly references made to road and rail safety. The NPS sets out the need and the Government's policies to deliver the development of NSIPs on the national road and rail networks in England.

20.3.3. The National Planning Policy Framework (NPPF), last revised in December 2024, notes that, with reference to MAD:

20.3.4. Paragraph 46 states *"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".*

20.3.5. Paragraph 102 states: *"Planning policies and decisions should promote public safety and take into account wider security and defence requirements by:*

> *a) anticipating and addressing possible malicious threats and other hazards (whether natural or man-made), especially in locations where large numbers of people are expected to congregate. Policies 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. The safety of children and other vulnerable users in proximity to open water, railways and other potential hazards should be considered in planning and assessing proposals for development; and*
>
> *b) 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".*

Legislation

20.3.6. The legislation relevant to the assessment of MAD for the EMG2 Project is detailed in **Table 20.5** below.

Table 20.5 MAD summary of legislation

Legislation	Description
The Infrastructure Planning (Environmental Impact Assessment)	Schedule 4 Paragraph 5(d) of the EIA Regulations requires: "A description of the likely significant effects of the development on the environment resulting from … the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)".

Legislation	Description
Regulations 2017	Schedule 4, Paragraph 8 of the EIA Regulations requires: A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of MAD that are relevant to the project concerned. If appropriate, a description of the measures envisaged to prevent or mitigate the significant adverse effects of major accidents and/or disasters on the environment and details of the preparedness for and proposed response to such emergencies.
Health and Safety at Work etc. Act 1974 (c. 37)	Provides the framework for the regulation of workplace health and safety in the UK. It provides a legal framework for the provision of safe plant and equipment and prevention of harm to people from occupational hazards present in a workplace, including emergencies, which may affect those offsite or visiting the EMG2 Project.
Construction (Design and Management) (CDM) Regulations 2015	Places legal duties on almost all parties involved in construction work, with specific duties on clients, designers and contractors, so that health and safety is considered throughout the life of a construction project from inception to demolition and removal. The client, designer(s) and contractor(s) must avoid foreseeable risks, so far as is reasonably practicable, by eliminating hazards associated with the design, construction, operation and maintenance of the EMG2 Project. The CDM regulations ensure that mechanisms are in place to continually identify, evaluate and manage safety risks throughout the design, construction and operation phases of the EMG2 Project. Many of the risks identified and managed at the detailed design phase also serve to eliminate or reduce the risk of a major accident (and therefore environmental consequence) occurring during the construction and operation phases.
The Supply of Machinery (Safety) Regulations 2008	The regulations aim to remove technical barriers to trade, in particular products, by harmonising national health and safety provisions applicable to such products when they are first placed on the market or put into service in the European Economic Area. Many of the risks identified and managed in the design of machinery used in and associated with the EMG2 Project will serve to eliminate or reduce the risk of a major accident (and therefore environmental consequence) occurring during the construction and operation phases of the EMG2 Project.
Occupier's Liability Act 1984 (c.3)	This Act amends the law of England and Wales as to the liability of persons as occupiers of premises for injury suffered by persons other than their visitors. The Act provides a legal framework for the prevention of harm to people from occupational safety and health hazards present on premises under the control of the occupier, including to those visiting the premises. The EMG2 Project will include premises controlled by the Applicant that will attract visitors who could be impacted by MAD whilst on/crossing those controlled premises.

Guidance

20.3.7. The assessment has been carried out with reference to the following guidance:

- Major Accidents and Disasters in EIA: A Primer, published by the Institute of Environmental Management and Assessment[1].
- Public Health England Advice on the content of Environmental Statements accompanying an application under the Nationally Significant Infrastructure Planning Regime.
- Planning Inspectorate's Advice Page on working with public bodies in the infrastructure planning process Annex G – The Health and Safety Executive[2]
- DEFRA 'Green Leaves III' Guidelines for Environmental Risk Assessment and Management (2011)[3]
- ISO 31000:2018 Risk Management – Guidelines 2018[4]

[1] Institute of Environmental Management and Assessment. September 2020. Major Accidents and Disasters in EIA: A Primer. Available online: https://www.iema.net/resources/blog/2020/09/23/iema-major-accidents-and-disasters-in-eia-primer

[2] https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-eleven-working-with-public-bodies-in-the-infrastructure-planning-process/nationally-significant-infrastructure-projects-advice-note-eleven-annex-g-the-h

[3] https://www.gov.uk/government/publications/guidelines-for-environmental-risk-assessment-and-management-green-leaves-iii

[4] https://www.iso.org/standard/65694.html

20.4. Approach to Assessment of Applications

20.4.1. In recognition that this Chapter forms part of a single ES covering both the DCO Scheme and the MCO Scheme (as explained in Section 20.1 and in full within **Chapter 1: Introduction and Scope (Document DCO 6.1/MCO 6.1)**) it makes a clear distinction between the component parts and, consistent with the dual application approach, assesses the impacts arising from the DCO Application and MCO Application separately and then together as the EMG2 Project in combination. An assessment of the cumulative impacts of the EMG2 Project with other existing and, or approved developments, has also been completed using the list of projects identified in **Appendix 21B** to **Chapter 21: Cumulative Impacts** (**Document DCO 6.21B/MCO 6.21B**).

20.4.2. Accordingly, the remaining sections of this Chapter are structured as follows:

- An Assessment of the DCO Scheme within Section 20.5;
- An Assessment of the MCO Scheme within Section 20.6;
- An Assessment of the EMG2 Project as a whole, comprising the DCO Scheme and MCO Scheme together, within Section 20.7;
- An Assessment of the EMG2 Project as a whole in combination with other planned development (i.e. the cumulative effects), within Section 20.8; and
- An overall summary and conclusions of the above within Section 20.9.

20.5. Assessment of DCO Application

20.5.1. As set out in Section 1 of this Chapter, and at **Table 20.1,** the DCO Scheme comprises of the following component parts:

- The EMG2 Works: Logistics and advanced manufacturing development located on the EMG2 Main Site together with an upgrade to the EMG1 substation and provision of the Community Park;
- The Highway Works**:** Works to the highway network: the A453 EMG2 access junction works; significant improvements at Junction 24 of the M1 (referred to as the J24 Improvements) and works to the wider highway network including active travel works.

20.5.2. Within this Section, reference to EMG2 Works excludes the upgrades to the EMG1 Substation except where these works are specifically referenced.

Baseline conditions

20.5.3. The baseline relevant to MAD comprises:

- Features external to the DCO Scheme that contribute a potential source of hazard to the DCO Scheme;
- Sensitive environmental receptors at risk of significant effect; and
- Current (without the DCO Scheme) MAD risks in the locality.

20.5.4. The EMG2 Works:

- Are located adjacent to East Midlands Airport;
- Are located within the consultation zones for Major Hazard Site H4798;
- Are not located within a 5km radius of any Control of Major Accident Hazard (COMAH) sites or HSE Licensed explosives sites;
- Are located immediately adjacent to the Donington Park motorway services including fuel retail;
- Require diversion of the existing on-site overhead and underground 11kV (HV) and LV cables; and
- Will include an expanded compound located on the EMG1 site to host new 33kV switchboard.

20.5.5. The Highways Works:

- Are located adjacent to East Midlands Airport;
- Are located within the consultation zones for Major Hazard Site H4798;
- Are not located within a 5km radius of any Control of Major Accident Hazard (COMAH) sites or HSE Licensed explosives sites;

- Are located immediately adjacent to the Donington Park motorway services including fuel retail;
- Require diversion of the existing underground 11kV (HV) and LV cables within the highway to accommodate the Highways Works;
- Require diversion of the existing underground Medium Pressure and Low Pressure gas mains within the EMG2 Access Works to accommodate the proposed alterations to the existing highway; and
- Require diversion of the existing underground duct network within the Highway Works to accommodate the proposed alterations to the existing highway.

20.5.6. Baseline information from Chapters 5 to 19 of this ES (**Documents DCO 6.5 – 6.19**) have also been used to inform the MAD assessment.

20.5.7. There are no reasonably foreseeable planning applications or policy allocations that indicate the future baseline for the DCO Scheme will differ significantly from the current baseline with regards to the vulnerability of the DCO Scheme to the risk of MAD.

Potential impacts

20.5.8. Potential impacts are not considered for the MAD assessment. A MAD assessment takes account of the embedded design, mitigation and enhancement and additional mitigation measures detailed in **Table 20.6**. This enables the vulnerability of the DCO Scheme to the risk of MAD during both the construction and operation phases to be defined.

Mitigation measures

20.5.9. As part of the design process, a number of embedded and additional mitigation measures are included within the DCO Scheme to reduce the overall impact of the development. The DCO Applicant has committed to constructing and managing the DCO Scheme in accordance with the measures listed in **Table 20.6** below to reduce the potential risks of MAD. All measures to manage and reduce the risk of significant adverse effects occurring due to the vulnerability of the DCO Scheme to MAD are considered to be mitigation measures for the purposes of the assessment.

20.5.10. Additional design, mitigation and enhancement measures are set out in **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B**)**.** With the mitigation measures proposed, no monitoring has been identified as necessary.

Table 20.6 Mitigation Measures for the DCO Scheme

Measures adopted as part of the EMG2 Project	Justification
CDM Health & Safety Plan (relevant to	The CDM regulations ensure that mechanisms are in place to continually identify, evaluate and manage safety risks throughout the design, construction and operation phases of the DCO Scheme. Many of the risks identified and managed at the detailed design

Measures adopted as part of the EMG2 Project	Justification
construction phase only)	phase also serve to eliminate or reduce the risk of a major accident (and therefore environmental consequence) occurring during the construction and operation phases.
Construction Environmental Management Plan (CEMP) for construction phase environmental mitigation (to be submitted as part of the application for development consent)	The submitted CEMP at **Appendix 3A** of this ES (**Document DCO 6.3A**) outlines measures to ensure compliance and adherence to safe and sustainable construction practices and sets out the controls that will be adopted during the construction of the DCO Scheme to minimise any adverse environmental effects (for example, noise, dust, lighting, surface water run-off and ecology). Phase specific construction environmental management plans (P-CEMPs) will be drafted in accordance with the principles set out in the construction environmental management plan and submitted as per Requirement 11 of the draft DCO (**Document DCO 3.1**). A Site Waste Management Plan will also be provided and appended to the CEMP. A CEMP ensures that risks associated with construction accidents are ALARP.
Sustainable Drainage System (SuDS)	A surface water drainage strategy for the EMG2 Works has been developed to ensure that run-off generated by the EMG2 Project is dealt with in a sustainable manner in accordance with local and national standards. In respect of the EMG2 Works, the drainage strategy has been designed to intercept and store rainwater falling on the development, before discharging it to the local watercourse in the south east corner of the site at a runoff rate that will be agreed with the drainage authorities. This will require the installation of a series of attenuation basins and swales along the western and southern boundaries to store and treat surface water run-off from the development. This strategic drainage infrastructure will be installed as the earthworks progresses. Additional treatment facilities, such as on-plot attenuation basins, will be provided as each development zone is brought forward and will connect into the strategic drainage infrastructure. With appropriate mitigation measures in place, the EMG2 Works will not have significant adverse effects upon the flood risk and drainage. Full details of the drainage strategy and flood risk assessment is provided in **Chapter 13: Flood Risk and Drainage** of this ES (**Document DCO 6.13**) and the associated appendices. Therefore, with these mitigation measures in place, flood risk to the EMG2 Works is ALARP.
Construction Traffic Management Plan (CTMP)	The CTMP, which has been submitted as part of the CEMP and provided as **Appendix 3A** of this ES (**Document DCO 6.3A**), sets out the arrangements and management practices that will be adopted to minimise the impact of traffic on the local road network. Following this mitigation, the risk of road accidents associated with the DCO Scheme is considered to be ALARP.
Highways Works	A package of Highway Works is proposed as part of the EMG2 Project including substantial improvements around Junction 24 of the M1, referred to as the J24 Improvements as well as more minor

Measures adopted as part of the EMG2 Project	Justification
	works on the local highways network and pedestrian/cycle route enhancements. The full extent of the highway works is shown on the Highways Works General Arrangement Drawings (**Document DCO 2.8**) and details are outlined in **Chapter 3: Project Description** of this ES (**Document DCO 6.3**) and **Chapter 6: Traffic and Transportation** (**Document DCO 6.6**). These highways works will facilitate access to the scene of the event of an emergency.
Sustainable Transport Strategy - Gateway Shuttle Bus service	A central part of the Sustainable Transport Strategy for the EMG2 Main Site will be a Gateway Shuttle Bus service. This will be a free service for all site employees, and local residents, providing a highly sustainable and affordable alternative to single occupancy car travel. It will operate by providing a 'last mile' service for employees with links from their workplaces to existing local bus operator services through a dedicated on-site interchange at the site entrance. Using state of the art fully electric shuttle buses, patronage at EMG1 has to date far exceeded expectations, with some 4,800 trips per week achieved in 2023. The EMG2 Main Site shuttle service will be co-ordinated through an expanded Transport Working Group already in operation at EMG1. This ensures that through close cooperation between all parties, bus services operate throughout the day to support the shift patterns of the businesses. Full details of the Sustainable Transport Strategy and Framework Travel Plan for the EMG2 Project are provided in **Appendices 6B and 6C** of this ES (**Document DCO 6.6B and DCO 6.6C**). Following this mitigation, the risk of road accidents associated with the EMG2 Works is considered to be ALARP.
HGV parking area	A secure, dedicated and private HGV parking area to meet the needs of HGVs visiting the EMG2 Main Site is proposed. Following this mitigation, the risk of road accidents associated with the EMG2 Works is considered to be ALARP.
Security infrastructure and emergency access	The EMG2 Works include security infrastructure to serve the EMG2 Main Site, including fencing, gates, security kiosks, and security lighting. The EMG2 Main Site has emergency and security access from the A453 via a new arm off the Hunter Road roundabout (EMG2 Access Works), with an principal access alternative location access further to the west along the A453. Following this mitigation, the risk of malicious attacks associated with the EMG2 Works is considered to be ALARP.
Operational design standards	The following will be included within the management of the EMG2 Works (EMG2 Main Site) through the requirements in the DCO to ensure a high quality environment is maintained throughout: • Ensure effective, essential winter maintenance; • Regularly reviewed and updated winter maintenance plans;

Measures adopted as part of the EMG2 Project	Justification
	• Regular maintenance of assets to detect deterioration and damage; • Standard operating procedures in place for use in the event of necessary road/rail closure and/or traffic diversion; • Use of construction materials with superior properties which offer increased tolerance to fluctuating temperatures; • Road user warning systems in place in areas exposed to high winds; • Regular sweeping and cleaning to remove debris; • Effective vegetation maintenance; • Regular surveys, management and monitoring of street lighting to ensure asset stability; and • Regular maintenance and cleaning of drainage systems.
UK Health and Safety legislation	Risks associated with occupational health and safety are not considered applicable to the DCO Scheme due to detailed adherence UK Health and Safety legislation, such as: • ISO 45001 management system • The Workplace (Health, Safety and Welfare) Regulations 1992 • Management of Health & Safety at Work Regulations 1999 • The Dangerous Substances and Explosive Atmospheres Regulations 2002 • The Control of Major Accident Hazard Regulations 2015
Lighting Strategy	The strategy notes that all illumination levels will be set as low as practicable while complying with safety and security recommendations and the design levels set out in BS EN 12464 'Light and lighting – Lighting of work places – Part 2: Outdoor work places' and BS 5489-1 'Design of road lighting- Lighting of roads and public amenity areas'. It confirms that an indicative external lighting design has been produced that minimises light pollution. Furthermore, lighting for the operational phase of the EMG2 Works will be typical of commercial uses and highways lighting. This lighting is not similar to that of an airport or runway. Additionally, the lighting for the operational phase will not use the same colours in the same arrangement as that for the East Midlands Airport Runway and will not produce enough upward light to result in glare to pilots or planes. These measures will prevent pilots from being distracted by the operational lighting, and it will remain clear where the runway for the East Midlands Airport is. The operational risk of accidents associated with the East Midlands Airport are considered to be ALARP.
Aerodrome safeguarding	Protective Provisions applicable to aerodrome safeguarding in favour of East Midlands Airport are included in Part 6 of Schedule 13 of the

Measures adopted as part of the EMG2 Project	Justification
	draft DCO (**Document DCO 3.1**) for the purposes of the DCO Application. Identical provisions were contained in the EMG1 DCO and will apply to the development proposed by the MCO Application. A Management Strategy for the Safeguarding of East Midlands Airport has been produced **(Appendix 20C: Aerodrome Safeguarding Report (Document DCO 6.20C)** to demonstrate that the proposed DCO Scheme has been assessed with full regard to the principles and technical safeguarding requirements outlined in Civil Aviation Authority (CAA) CAP 738 – Safeguarding of Aerodromes (Issue 3, October 2020), and to provide assurance that the safe operation of East Midlands Airport will not be compromised by the proposed works. The operational risk of accidents associated with the East Midlands Airport are considered to be ALARP.

Residual Effects

20.5.11. This section details the output of an assessment of the vulnerability of the DCO Scheme to the risk of MAD during both the construction and operation phases, taking into account the embedded design, mitigation and enhancement measures detailed in **Table 20.6** above.

20.5.12. The MAD Events to which the DCO Scheme may be vulnerable during construction and operation are summarised below.

Construction Phase Potential MAD Events

20.5.13. One MAD event, within the category of road accidents, has been identified to which the DCO Scheme may be vulnerable during the construction phase as detailed in entry 6 at **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B**). The risk identified is that there will be an increase in construction traffic that could potentially lead to an increase in road accidents.

20.5.14. However, based on the assumptions and mitigation measures put forward in this Chapter and **Chapter 6: Traffic and Transportation** of this ES (**Document DCO 6.6**) together with the measures identified in the CTMP appended to the CEMP (**Document DCO 6.3A**), it is considered that the identified potential MAD event above would be managed to be ALARP.

Operational Phase Potential MAD Events

20.5.15. Six MAD events have been identified to which the EMG2 Works may be vulnerable during the operation phase as detailed in **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B**). The risks identified include potential impacts from:

- Extreme temperatures;
- Accidents occurring at East Midlands Airport;

- Accidents occurring at EMG1 and its rail freight terminal;
- Accidents occurring at Major Hazard Site H4798 known as known as Gasrec Ltd;
- Accidents at other operational facilities; and
- Operational HGV movements of the EMG2 Project.

20.5.16. Notwithstanding the risks identified, based on the assumptions and mitigation measures put forward in other relevant ES Chapters, which are summarised in the mitigation column of the Risk Record at **Appendix 20B: ES Risk Record (Document DCO 6.20B)**, it is considered that the identified potential major accident(s) and/or disaster(s) events above would all be managed to be ALARP.

20.6. Assessment of MCO Application

20.6.1. As set out in Section 1 of this Chapter, and at **Table 20.1,** the MCO Scheme comprises of the EMG1 Works which in summary provide for additional warehousing development within Plot 16 of the EMG1 site together with works to increase the permitted height of the cranes at the EMG1 rail-freight terminal, improvements to the public transport interchange, site management building and the EMG1 Pedestrian Crossing.

Baseline conditions

20.6.2. The baseline relevant to MAD comprises:

- Features external to the MCO Scheme that contribute a potential source of hazard to the MCO Scheme;
- Sensitive environmental receptors at risk of significant effect; and
- Current (without the MCO Scheme) MAD risks in the locality.

20.6.3. The MCO Scheme:

- Is located adjacent to East Midlands Airport;
- Is located within the consultation zones for Major Hazard Site H4798;
- Includes elements of land within parts of the original EMG1 site including the rail freight terminal;
- Includes land within and around the existing EMG1 public transport interchange and site management building at the EMG1 site entrance; and
- Are not located within a 5km radius of any Control of Major Accident Hazard (COMAH) sites or HSE Licensed explosives sites.

20.6.4. Baseline information from Chapters 5 to 19 of this ES (**Documents MCO 6.5 – 6.19**) has also been used to inform the MAD assessment.

20.6.5. There are no reasonably foreseeable planning applications or policy allocations that indicate the future baseline for the MCO Scheme will differ significantly from the current baseline with regards to the vulnerability of the MCO Scheme to the risk of MAD.

Potential impacts

20.6.6. Potential impacts are not considered for the MAD assessment. A MAD assessment takes account of the embedded design, mitigation and enhancement and additional mitigation measures detailed in **Table 20.7**. This enables the vulnerability of the MCO Scheme the risk of MAD during both the construction and operation phases to be defined.

Mitigation measures

20.6.7. As part of the design process a number of embedded and additional mitigation measures are included within the MCO Scheme to reduce the overall impact of the development. The

Applicant has committed to constructing and managing the MCO Scheme in accordance with the measures listed in **Table 20.7** below to reduce the potential risks of MAD. All measures to manage and reduce the risk of significant adverse effects occurring due to the vulnerability of the MCO Scheme to MAD are considered to be mitigation measures for the purposes of the assessment.

20.6.8. Additional design, mitigation and enhancement measures are set out in **Appendix 20B: ES Risk Record** of this ES (**Document MCO 6.20B**)**.** With the mitigation measures proposed, no monitoring has been identified as necessary.

Table 20.7 Mitigation Measures for the MCO Scheme

Measures adopted as part of the EMG2 Project	**Justification**
CDM Health & Safety Plan (relevant to construction phase only)	The CDM regulations ensure that mechanisms are in place to continually identify, evaluate and manage safety risks throughout the design, construction and operation phases of the MCO Scheme. Many of the risks identified and managed at the detailed design phase also serve to eliminate or reduce the risk of a major accident (and therefore environmental consequence) occurring during the construction and operation phases. For the MCO Application, no CEMP or CTMP applies, however, all construction will be complete under legislation noted in **Table 20.5** and best construction practice, which ensures that that risks associated with construction accidents are ALARP.
Sustainable Drainage System (SuDS)	A surface water drainage strategy for Plot 16 (as part of the MCO Scheme) has been developed to ensure that run-off generated by the MCO Scheme is dealt with in a sustainable manner in accordance with local and national standards. With regards to Plot 16, new surface water drainage infrastructure is proposed. The discharge rate into the downstream EMG1 Surface Water Drainage Infrastructure will be restricted at the equivalent greenfield QBAR, thus mimicking the baseline conditions. The excess surface water runoff above the discharge rate will be stored within attenuation basins, supplemented within on plot storage as necessary, until such time that it can drain into the downstream system. With appropriate mitigation measures in place, the MCO Scheme will not have significant adverse effects upon the flood risk and drainage. Full details of the drainage strategy and flood risk assessment is provided in **Chapter 13: Flood Risk and Drainage** of this ES (**Document MCO 6.13**) and the associated appendices. Therefore, with these mitigation measures in place, flood risk to the MCO Scheme is ALARP.
Operational design standards	The MCO Scheme will be completed and managed under the existing site management protocols.
UK Health and Safety legislation	Risks associated with occupational health and safety are not considered applicable to the MCO Scheme due to detailed adherence UK Health and Safety legislation, such as:

Measures adopted as part of the EMG2 Project	Justification
	• ISO 45001 management system • The Workplace (Health, Safety and Welfare) Regulations 1992 • Management of Health & Safety at Work Regulations 1999 • The Dangerous Substances and Explosive Atmospheres Regulations 2002 • The Control of Major Accident Hazard Regulations 2015
Aerodrome safeguarding	Protective Provisions applicable to aerodrome safeguarding in favour of MAG are included in Schedule 16 of the EMG1 DCO and will apply to the development proposed by the MCO Application. The operational risk of accidents associated with the East Midlands Airport are considered to be ALARP.

Residual effects

20.6.9. This section details the output of an assessment of the vulnerability of the MCO Scheme to the risk of MAD during both the construction and operation phases, taking into account the embedded design, mitigation and enhancement measures detailed in **Table 20.7** above.

20.6.10. The MAD Events to which the MCO Scheme may be vulnerable during construction and operation are summarised below.

Construction phase potential MAD events

20.6.11. One MAD event, within the category of road accidents, has been identified to which the MCO Scheme may be vulnerable during the construction phase as detailed in entry 6 at **Appendix 20B: ES Risk Record** of this ES (**Document MCO 6.20B**). The risk identified is that there will be an increase in construction traffic that could potentially lead to an increase in road accidents.

20.6.12. However, based on the assumptions and mitigation measures put forward in this Chapter and **Chapter 6: Traffic and Transportation** of this ES (**Document MCO 6.6**) ensures the risk of road accidents is considered to be ALARP.

Operational phase potential MAD events

20.6.13. Five MAD events have been identified to which the MCO Scheme may be vulnerable during the operation phase as detailed in **Appendix 20B: ES Risk Record** of this ES (**Document MCO 6.20B**). The risks identified include potential impacts from:

- Extreme temperatures;
- Accidents occurring at East Midlands Airport;
- Accidents occurring at EMG1 and its rail freight terminal;

- Accidents occurring at Major Hazard Site H4798 known as known as Gasrec Ltd; and
- Accidents occurring at other operational facilities.

20.6.14. Notwithstanding the risks identified, based on the assumptions and mitigation measures put forward in other relevant ES Chapters, which are summarised in the mitigation column of the Risk Record at **Appendix 20B: ES Risk Record (Document MCO 6.20)**, it is considered that the identified potential major accident(s) and/or disaster(s) events above would all be managed to be ALARP.

20.7. Assessment of EMG2 Project

20.7.1. As set out in Section 1 of this Chapter, and at **Table 20.1,** the EMG2 Project as a whole is the combination of the DCO Scheme and the MCO Scheme which have been assessed in Sections 20.5 and 20.6 of this Chapter.

Baseline conditions

20.7.2. The baseline conditions have been described at Section 20.5 in respect of the DCO Application and at Section 20.6 for the MCO Application.

Potential impacts

20.7.3. The potential impacts of the EMG2 Project as a whole remain as set out at Section 20.5 with regard to the DCO Scheme and at Section 20.6 for the MCO Scheme. There is no greater impact of the combination of the DCO Scheme and the MCO Scheme.

Mitigation measures

20.7.4. The assessment has taken account of the mitigation measures set out at **Table 20.6** and **Table 20.7** of this Chapter and as set out at Section 20.5 for the DCO Scheme and Section 20.6 for the MCO Scheme.

Residual effects

20.7.5. Residual effects are those that would remain after the implementation of the proposed mitigation measures. Each identified impact has been assessed within this Chapter including the associated mitigation and therefore, the residual effects are presented within Section 20.5 for the DCO Scheme and Section 20.6 for the MCO Scheme.

20.7.6. It is therefore considered that, with the proposed mitigation in place, the EMG2 Project in combination would not give rise to any significant residual effects and is therefore not vulnerable to MADs nor would it exacerbate the vulnerability of surrounding hazard sites.

20.8. Cumulative Effects

Intra-project effects

20.8.1. This Chapter reports the assessment of the vulnerability of the EMG2 Project (DCO Scheme and MCO Scheme combined) to MAD during construction and operation through the use of the baseline information from all other ES topic Chapters and reports the identified potential, intra-project effects in **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B/MCO 6.20B**). The preceding sections above consider the individual DCO Application and MCO Application, and conclude that neither would give rise to any significant residual effects.

20.8.2. This assessment remains unchanged when the EMG2 Project is assessed in combination because the embedded design, mitigation and enhancement measures applicable to the DCO Scheme and the MCO Scheme ensure the risk of MAD events is ALARP and do not give rise to any significant residual effects.

Inter-project effects

20.8.3. The mitigation measures incorporated as part of the DCO Scheme and as outlined in **Table 20.6** and for the MCO Scheme as per **Table 20.7** to ensure the vulnerability of the EMG2 Project to MAD is ALARP, when considered alone and in combination with other committed developments. The principal cumulative effects would relate to traffic, and therefore an assessment is provided as part of **Chapter 6: Traffic and Transportation** (**Document DCO 6.6/MCO 6.6**) and mitigation is proposed including the delivery of the Highway Works to ensure there are no significant impact.

20.8.4. From a MAD perspective, all committed developments nearby will be subject to health and safety requirements, to ensure that the risk of accidents is ALARP. As such, there are predicted to be no cumulative effects with other committed development with regards to MAD.

20.9. Summary of Effects and Conclusions

20.9.1. This Chapter presents the environmental baseline relevant to the MAD assessment and assesses the potential environmental effects on MAD arising from the EMG2 Project using the methodology set out in Section 20.2 of this Chapter. The DCO Scheme (EMG2 Works and Highway Works**)** is assessed in Section 20.5 and the MCO Scheme (EMG1 Works) is assessed in Section 20.6, with the EMG2 Project as a whole assessed in Section 20.7, before cumulative effects are considered in Section 20.8.

20.9.2. At the construction stage, one MAD event, being an increase in construction traffic which might lead to an increase in road traffic accidents, has been identified which the DCO Scheme and MCO Scheme may be vulnerable to as set out within **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B/MCO 6.20B**). Based on the assumptions and mitigation measures put forward in this Chapter and within **Chapter 6: Traffic and Transportation** (**Document DCO 6.6/MCO 6.6**) it is considered that the identified potential major accident(s) and/or disaster(s) event would be managed to be ALARP.

20.9.3. In the operational stage, six MAD events have been identified to which the DCO Scheme may be vulnerable. Five MAD events have been identified to which the MCO Scheme may be vulnerable. These vulnerabilities are set out within **Appendix 20B: ES Risk Record** of this ES (**Document DCO 6.20B/MCO 6.20B**)**.** However, based on the assumptions and mitigation measures put forward in this Chapter it is considered that the identified potential MAD events would be managed to be ALARP.

20.9.4. It is considered that there would be no cumulative effects with other committed development with regards to MAD as that all committed developments nearby will be subject to health and safety requirements, to ensure that the risk of accidents is ALARP.

20.9.5. It is therefore considered that, with the proposed mitigation in place, the EMG2 Project in combination and the two applications, the DCO Scheme and MCO Scheme in isolation, would not give rise to any significant residual effects and is therefore not vulnerable to MADs nor would it exacerbate the vulnerability of surrounding hazard sites.