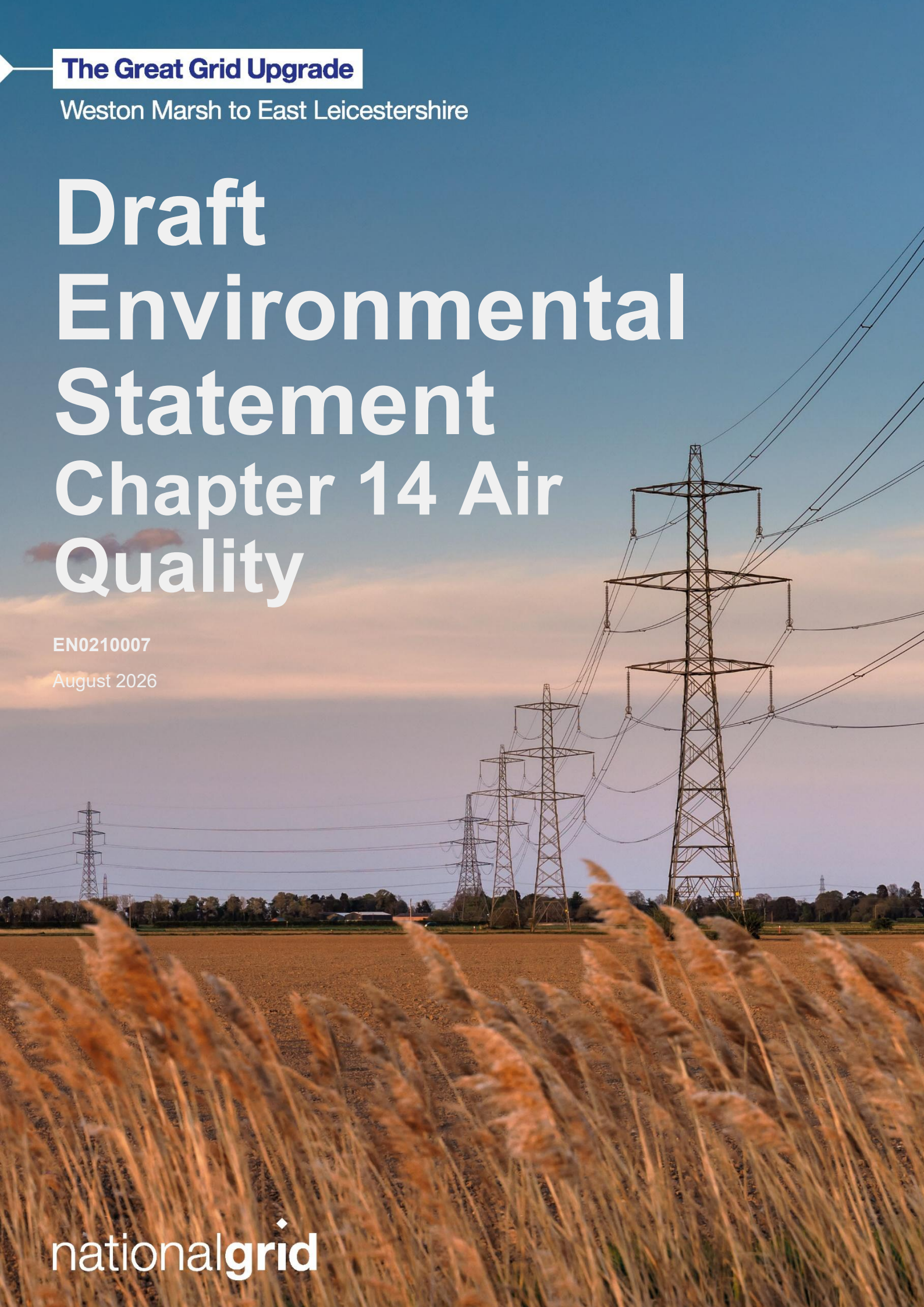




**The Great Grid Upgrade**

Weston Marsh to East Leicestershire

# Draft Environmental Statement Chapter 14 Air Quality

EN0210007

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nationalgrid

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# 14. Air Quality

## 14.1 Introduction

14.1.1 This chapter reports the preliminary assessment of the potential effects of the Weston Marsh to East Leicestershire Project (the Project) on Air Quality. This chapter includes consideration of the following matters:

- dust;
- traffic emissions; and
- generator and Non-Road Mobile Machinery (NRMM) emissions.

14.1.2 This chapter should be read in conjunction with the following chapters which provide the Project context and approach to EIA:

- **Chapter 2 Regulatory and Planning Policy Context;**
- **Chapter 3 Main Alternatives Considered;**
- **Chapter 4 Description of the Project; and**
- **Chapter 5 EIA Approach and Methodology.**

14.1.3 In addition, there may be interrelationships with other disciplines. Therefore, this chapter should also be read in conjunction with the following chapters:

- **Chapter 8 Ecology and Biodiversity** includes details of the potential for air quality effects on ecological receptors.
- **Chapter 13 Traffic and Movement** includes details of the potential change in traffic movements and hence a difference in air quality pollutant emissions.
- **Chapter 17 Health and Wellbeing** includes details of the potential for air quality effects on health and wellbeing.
- **Chapter 18 Climate Change** includes details of the potential effect on climate from changes in air quality.
- **Chapter 19 Cumulative Effects** includes consideration of the potential for in-combination and cumulative effects on air quality.

14.1.4 This chapter is supported by the following figures and appendices:

- **Appendix 14A Air Quality Assessment Methodology;**
- **Appendix 14B Air Quality Assessment Results;**
- **Figure 14.1 Air Quality Study Area and Constraints;**
- **Figure 14.2 Air Quality Construction Dust Study Area;**
- **Figure 14.3 Air Quality Construction Traffic Study Area; and**
- **Figure 14.4 Air Quality Construction Compounds Study Area.**



## 14.2 Legislation, Policy Framework and Guidance

### Legislation and National Policy

- 14.2.1 Legislation and national policy relevant to the Project and this chapter are described in **Chapter 2 Regulatory and Planning Policy Context**, and supporting appendices **Appendix 2A Key Legislation**, **Appendix 2B National and Regional Planning Policy** and **Appendix 2C Local Policy**.

### Regional and Local Policy

- 14.2.2 **Chapter 2 Regulatory and Planning Policy Context** sets out relevant regional and local policy. Regional and local plans or policies relevant to this assessment are as follows:
- South East Lincolnshire Local Plan 2011-2036 (Ref 14.7), Policy 30, indicates that development must assess impacts on and from air quality and will be refused where unacceptable effects cannot be adequately mitigated.
  - South Kesteven District Council Local Plan 2011-2036 (Ref 14.8), Policy EN4, indicates that development must minimise pollution and ensure any adverse environmental or air quality impacts are avoided or mitigated to an acceptable level.
  - North Northamptonshire Joint Core Strategy 2011-2031(Ref 14.9), Policy 4, indicates that development should protect and enhance biodiversity by avoiding adverse effects on the natural environment from pollution, including impacts on air quality.
  - Charnwood Local Plan 2021-2037 (Ref 14.10), Policy EV11, indicates that developments should not lead to a significant impact upon, and deterioration of, local air quality resulting in unacceptable effects on human health, local amenity or the natural environment.

### Guidance

- 14.2.3 Relevant guidance specific to Air Quality, that has informed this non-statutory Draft Environmental Statement (DES) (referred to in this document as “DES” and “non-statutory DES”) and will inform the assessment within the Environmental Statement (ES), comprises:
- Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction (Ref 14.11);
  - IAQM Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (Ref 14.12);
  - Environmental Protection UK (EPUK) and IAQM Land-Use Planning & Development Control: Planning for Air Quality (Ref 14.13);
  - Local Air Quality Management (LAQM) Technical guidance (TG22) (Ref 14.14);
  - A guide to the assessment of air quality impacts on designated nature conservation sites (Ref 14.15);
  - Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulation (Ref 14.16); and

- Advisory Note: Ecological Assessment of Air Quality Impacts (Ref 14.17).

### Air Quality Objectives

14.2.4 The Air Quality Objectives (AQO) for nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), oxides of nitrogen (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) are set out in **Table 14.1**. These are from the national air quality standards (Ref 14.3).

Table 14.1 Air Quality Objectives

| Pollutant                               | Averaging Period | Air Quality Objective                                                                                 |
|-----------------------------------------|------------------|-------------------------------------------------------------------------------------------------------|
| Human health                            |                  |                                                                                                       |
| Nitrogen dioxide (NO <sub>2</sub> )     | 1-hour mean      | 200 µg/m <sup>3</sup> , not to be exceeded more than 18 times a year (99.79 <sup>th</sup> percentile) |
|                                         | Annual mean      | 40 µg/m <sup>3</sup>                                                                                  |
| Particulate matter (PM <sub>10</sub> )  | Daily mean       | 50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year (90.4 <sup>th</sup> percentile)   |
|                                         | Annual mean      | 40 µg/m <sup>3</sup>                                                                                  |
| Particulate matter (PM <sub>2.5</sub> ) | Annual mean      | 20 µg/m <sup>3</sup>                                                                                  |
|                                         |                  | 10 µg/m <sup>3</sup> to be achieved by December 2030*[1]                                              |
| Natural environment                     |                  |                                                                                                       |
| Oxides of nitrogen (NO <sub>x</sub> )   | Annual mean      | 30 µg/m <sup>3</sup>                                                                                  |
| Ammonia (NH <sub>3</sub> )              | Annual mean      | 3 µg/m <sup>3</sup> (1 µg/m <sup>3</sup> where lichens or bryophytes are present)                     |

Note: \* Environment Act 2021 (Ref 14.1) establishes a statutory target for the annual mean concentration of PM<sub>2.5</sub>, requiring levels to be reduced to 10 µg/m<sup>3</sup> by 2040. The Environmental Improvement Plan (EIP) 2025 (Ref 14.36) supports delivery of this requirement by setting an updated interim target of 10 µg/m<sup>3</sup> to be achieved by 2030.

[1] For the purpose of this assessment, a limit value of 10 µg/m<sup>3</sup> for PM<sub>2.5</sub> has been used.

## 14.3 Scope of Assessment

- 14.3.1 The scope of the assessment has been informed by the **Appendix 5B Scoping Opinion** (adopted by the Planning Inspectorate on behalf of the Secretary of State on 17 December 2025, following the submission of the **Appendix 5A EIA Scoping Report**), and ongoing engagement with relevant technical consultees.
- 14.3.2 A full summary of all issues raised relevant to Air Quality in the Scoping Opinion and National Grid’s response is provided in **Appendix 5C Preliminary Scoping Opinion Response**. Further details of engagement undertaken to date is provided in Section 14.4.

## 14.4 Stakeholder Engagement

- 14.4.1 National Grid has invited all the relevant councils to stakeholder meetings, regarding air quality. A summary of discussions and how these have influenced the Project, scope and/or the approach to the assessment is provided in **Table 14.2**.

Table 14.2 Key stakeholder engagement and National Grid's response

| Organisation and Date                                                                                                    | Summary of Issue Discussed                                                                                                                                                                     | Project Response                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National Grid; AECOM Arup Joint Venture (JV); South Holland District Council; Harborough District Council, 26 March 2026 | Cumulative effects: Given the high volume of similar projects being developed within comparable timeframes, there is a strong expectation that cumulative impacts will be thoroughly assessed. | If the construction phasing of the Project and neighbouring developments overlap, there is potential for increased magnitude of dust generation. In this situation IAQM construction dust guidance (Ref 14.11) suggests coordinating dust mitigation efforts with neighbouring developments to reduce cumulative impacts. This will be taken into account in the ES.                                                                                                |
|                                                                                                                          | Dust management: Dust is already a known issue for local authorities due to ground conditions and existing construction activity. Robust mitigation measures will therefore be required.       | Dust emitted by the construction of the Project can be eliminated or greatly reduced by applying site-specific mitigation measures, according to IAQM construction dust guidance (Ref 14.11); therefore, any cumulative effects would not be significant.<br><br>This has been taken into account in the DES as part of the dust assessment and mitigations mentioned in Section 14.7 below and in <b>Appendix 4A Draft Outline Code of Construction Practice</b> . |

## 14.5 Assessment Methodology

- 14.5.1 This section describes the methodology used to establish the existing baseline, together with the methodology/approach used to undertake the preliminary assessment on Air Quality. The overarching approach is also described in **Chapter 5 EIA Approach and Methodology**.

- 14.5.2 The preliminary Air Quality assessment determines if effects arising from the Project, following the implementation of mitigation, are likely to be significant. All conclusions and assessments are, by their nature, preliminary.

## Study Area

### Baseline

- 14.5.3 The baseline Study Area has included a review of sources and available monitoring data within 2 km of the draft Order Limits. The 2 km area reflects industry standard good practice and is considered appropriate in order to understand the effects from local sources such as roads and industrial processes and to gather a suitably representative baseline monitoring dataset. The Study Area has been shared with the relevant consultees. This Study Area is presented on **Figure 14.1 Air Quality Study Area and Constraints**.

### Construction dust

- 14.5.4 As defined in the EIA Scoping Report (Ref 14.19), the Study Area for construction dust comprises:
- human receptors within the draft Order Limits plus a 250 m buffer, or within 50 m of the proposed routes used by construction traffic on the public highway up to 500 m from a construction site entrance; and
  - any ecological designated site within the draft Order Limits plus a 50 m buffer, or within 50 m of the proposed routes used by construction traffic on the public highway up to 500 m from a construction site entrance.
- 14.5.5 The Study Area is in accordance with the IAQM Guidance (Ref 14.11). The Study Area's sensitivity to dust soiling and health and ecological effects has been determined through assessing the number of receptors within 20 m, 50 m, 100 m, and 250 m from the draft Order Limits, and their sensitivity. This Study Area is presented on **Figure 14.2 Air Quality Construction Dust Study Area**.

### Construction traffic

- 14.5.6 The potential impact of the Project on air quality from vehicle movements would be associated with the anticipated rise in activity across the highway network resulting from construction.
- 14.5.7 Two sets of screening thresholds will be applied to traffic flows to define an Affected Road Network (ARN) for human and ecological receptors, following best practice guidance as detailed below.
- 14.5.8 For human receptors, the Study Area for the construction vehicle exhaust emission assessments would be determined using the screening criteria detailed in the EPUK and IAQM planning guidance (Ref 14.13). The screening criteria are as follows:
- A change of Light Duty Vehicle (LDV) (cars and small vans with a gross vehicle weight of less than 3.5 tonnes) flows of:

- more than 100 Annual Average Daily Traffic (AADT<sup>1</sup>) within or adjacent to an Air Quality Management Area<sup>2</sup> (AQMA); or
  - more than 500 AADT elsewhere.
  - A change of Heavy Duty Vehicle (HDV) (goods vehicles with a gross vehicle weight greater than 3.5 tonnes) flows of:
    - more than 25 AADT within or adjacent to an AQMA; or
    - more than 100 AADT elsewhere.
- 14.5.9 Meeting either of these criteria indicates that detailed dispersion modelling of the road traffic emissions is necessary. Roads which exceed the screening thresholds above, and where sensitive human receptors are located within 200 m of those, would be included to determine the ARN. Beyond 200 m, traffic emissions are expected to have a minimal air quality impact on relevant receptors, as detailed in the EPUK and IAQM guidance (Ref 14.13).
- 14.5.10 For ecological receptors, the traffic data for construction would be screened using the relevant criteria set out in Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Ref 14.16). The screening criteria are as follows:
- A change of LDV flows of more than 1,000 AADT within 200 m of a designated site.
  - A change of HDV flows of more than 200 AADT within 200 m of a designated site.
- 14.5.11 At this stage of the Project, a preliminary construction traffic dataset is available and has been reviewed. The data is not in a format that is compatible with air quality screening or detailed air quality modelling. As a result, screening has not been undertaken using the EPUK and IAQM planning guidance criteria (Ref 14.13) and the ARN has not been defined. For this preliminary assessment, a precautionary Study Area for construction traffic has been determined as a 200 m buffer from the draft Order Limits, which includes all construction haul and access routes known at this stage. More detailed construction traffic data will be available and assessed for the ES.
- 14.5.12 For the ES, construction traffic will be assessed in accordance with the approach set out in paragraphs 14.5.6 to 14.5.10. The approach of a 200 m buffer for the DES has been undertaken in order to identify receptors, as shown in **Figure 14.3 Air Quality Construction Traffic Study Area**, which could be affected by traffic emissions as a result of the Project. As such, sensitive receptors within the 200 m buffer from the draft Order Limits have been reviewed and assessed on a qualitative basis.
- 14.5.13 Sensitive human receptors have been identified using the Ordnance Survey (OS) Address Base Plus dataset (Ref 14.29). A total of 1,516 human receptors within 200 m of draft Order Limits have been identified. The number and type of sensitive receptors for each Section are shown in **Table 14A.5 of Appendix 14A Air Quality Assessment Methodology**.
- 14.5.14 Ecological receptors are defined as designated sites whose features are sensitive to air pollutants, either directly or indirectly. A total of 20 ecological habitats situated within a 200 m buffer of the draft Order Limits have been identified. Selected

<sup>1</sup> Annual Average Daily Traffic (AADT) is the total volume of vehicle traffic on a road for a year, divided by 365 days.

<sup>2</sup> Areas defined by local authorities, where air quality compliance objectives are not predicted to be met.



ecological receptors are presented in **Table 14A.6 of Appendix 14A Air Quality Assessment Methodology**.

### **Generator use/Non-Road Mobile Machinery**

- 14.5.15 No specific guidance exists on the definition of a Study Area from Non-Road Mobile Machinery (NRMM) and generator emissions due to the large variation in potential effects from different types of sources. NRMM is a broad category that includes mobile machines and transportable industrial equipment or vehicles, fitted with internal combustion engines but not made to transport goods or passengers on roads. For the purposes of this assessment, a Study Area of up to a 100 m radius from the construction compound areas listed within **Chapter 4 Description of the Project** is considered appropriate given the potential size and duration of the operations to be undertaken and the likely size of generators and plant required. Beyond this distance it is considered that the effect of any emissions on local air quality would be very limited. This Study Area also follows the precedent set on other National Grid projects such as the Bramford to Twinstead Reinforcement project (Ref 14.32), Norwich to Tilbury (Ref 14.33) and LionLink (Ref 14.34). The construction compound areas are presented in **Figure 4.1 Proposed Project Design** and the relevant Study Areas are shown in **Figure 14.4 Air Quality Construction Compounds Study Area**.

## **Data Collection**

### **Desk study**

- 14.5.16 To provide an assessment of the likely significance of any new project (in terms of air quality), it is necessary to identify and understand the baseline air quality conditions in and around the Study Area(s).
- 14.5.17 The baseline assessment has drawn on the following key information sources:
- Department for Environment, Food and Rural Affairs (Defra) Background Air Quality (Ref 14.20);
  - Defra AQMA dataset (Ref 14.21);
  - Local Air Quality Management Reports (various, Ref 14.22 to Ref 14.26);
  - Environment Agency (EA) register on industrial installations (Ref 14.27);
  - Air Pollution Information System (APIS) (Ref 14.28); and
  - OS mapping to identify sensitive human receptors such as, residential properties, schools, hospitals, and care homes (Ref 14.29).
- 14.5.18 No site surveys to gather baseline information have been undertaken, as background air quality information is available and has been sourced from Defra and the relevant planning authorities as part of their obligations under the Environment Act 2021 (Ref 14.1).

### **Further data to be collected to inform the Environmental Statement**

- 14.5.19 In addition to the data collected for this DES, the ES will be informed by additional baseline data if there are any changes to the Study Area(s), for example because of updated draft Order Limits or changes to predicted traffic flows.

## Impact Assessment Methodology

### Construction dust assessment methodology

- 14.5.20 The effects from construction of the Project have been assessed using the qualitative approach described in the latest guidance by the IAQM guidance (Ref 14.11), which considers the potential for dust emissions from demolition, earthworks, construction and trackout activities.
- 14.5.21 For each of these dust-generating activities, the guidance considers three separate effects:
- annoyance due to dust soiling;
  - harm to ecological receptors; and
  - the risk of health effects due to a significant increase in PM<sub>10</sub> exposure.
- 14.5.22 The methodology considers the scale on which the above effects are predicted to be generated (classed as small, medium, or large), the levels of background PM<sub>10</sub> concentration and the distance to the closest receptor, to determine the sensitivity of the area. This is then taken into consideration when determining the overall risk for the Project and suitable mitigation measures are also proposed to reduce any identified risks. Further detail on the construction dust assessment methodology, including sensitivity and magnitude criteria, is included in **Appendix 14A Air Quality Assessment Methodology**.
- 14.5.23 The construction dust assessment is split into five geographical sections: Sections 1, 2, 3, 4 and 5. Each of these can be seen in **Figure 14.2 Air Quality Construction Dust Study Area**. Each section has been subject to the assessment criteria, as listed in **Appendix 14B Air Quality Assessment Results**.

### Construction traffic assessment methodology

- 14.5.24 As detailed construction data is not available at this stage, a screening approach has been applied to ecological and sensitive human receptors within a 200 m buffer of the draft Order Limits, as detailed in paragraph 14.5.11. This approach allows ecological and sensitive human receptors to be identified, screened in at DES, and reported in **Appendix 14A Air Quality Assessment Methodology**.

### Impact magnitude

- 14.5.25 The magnitude of change for construction traffic emissions has been assigned based on the criteria from IAQM, Land-use Planning and Development Control: Planning for Air Quality (Ref 14.13) presented in **Table 14.3**.

Table 14.3 IAQM impact magnitude criteria

| Long-term Average Concentration at Receptor in Assessment Year | % Change in Concentration Relative to the Air Quality Assessment Level (AQAL) |             |             |             |
|----------------------------------------------------------------|-------------------------------------------------------------------------------|-------------|-------------|-------------|
|                                                                | 1                                                                             | 2-5         | 6-10        | >10         |
| 75% or less of AQAL                                            | Negligible                                                                    | Negligible  | Slight      | Moderate    |
| 76-94% of AQAL                                                 | Negligible                                                                    | Slight      | Moderate    | Moderate    |
| 95-102% of AQAL                                                | Slight                                                                        | Moderate    | Moderate    | Substantial |
| 103-109% of AQAL                                               | Moderate                                                                      | Moderate    | Substantial | Substantial |
| 110% or more of AQAL                                           | Moderate                                                                      | Substantial | Substantial | Substantial |

### Significance

- 14.5.26 A preliminary assessment of likely significant effects has used professional judgement considering the sensitivity (or value) of the receptor, and the predicted magnitude of change (impact) likely to be caused by Project activities. These factors are combined to give an overall significance of effect. It is likely that a 'moderate' or 'substantial' impact will give rise to a significant effect and a 'negligible' or 'slight' impact will not result in a significant effect.

### Generator use/NRMM assessment methodology

- 14.5.27 At the time of writing, the locations and usage of generators/NRMM during construction are unknown and therefore a further review of generators/NRMM will be carried out and presented in the ES.
- 14.5.28 It has been agreed with the Planning Inspectorate through the EIA Scoping that use of operational generators/NRMM is scoped out, as effects are not likely to be significant.
- 14.5.29 This assessment considers any mitigation and commitments on emission standards for engines and plant to be used in construction, included within **Appendix 4A Draft Outline Code of Construction Practice**.

### Assessment Assumptions and Limitations

- 14.5.30 The assessment has been undertaken based on preliminary Project design information. This information is iterative and will be updated for the ES as the design evolves to include relevant changes accounted for in the assessment.
- 14.5.31 All conclusions and assessments are by their nature preliminary. All assessment work has applied, and continues to apply, a precautionary principle, to account for limited information available (in terms of the proposals for the Project).
- 14.5.32 The key parameters and assumptions will be reviewed based on the final design and, where required, updated or refined. The ES will present the final key parameters and assumptions used within that assessment, particularly drawing attention to any areas that may have changed from what is presented in this preliminary assessment.

### **Construction dust assumptions and limitations**

- 14.5.33 Dust effects have been assumed to occur across the whole area within the draft Order Limits. This is a conservative assumption included to cover all potential effects.
- 14.5.34 Where there is uncertainty, worst-case magnitudes have been assumed for dust effects, including large magnitudes for earthworks, construction and trackout, and a small magnitude for demolition.

### **Construction traffic assumptions and limitations**

- 14.5.35 The construction traffic data available at the DES stage are not in a format that is compatible with air quality screening or detailed air quality modelling. Therefore, based on the available information, receptors that may experience potential impacts to air quality have been identified as described in paragraph 14.5.11. During production of the ES, updated construction traffic data will be compared to the EPUK and IAQM planning guidance (Ref 14.13) to determine the assessment requirements. An assessment will then be undertaken accordingly if the screening criteria in paragraphs 14.5.7 to 14.5.10 are met.

### **Generators and NRMM assumptions and limitations**

- 14.5.36 As generator and NRMM information is not available at this stage, a further review will be carried out and presented in the ES. The assessment will include, where possible, information on the type, number, location, or operational hours of such machinery.

## **14.6 Baseline Conditions**

### **Existing Baseline**

- 14.6.1 The Project has been divided into five Sections as described in **Chapter 4 Description of the Project** and shown in **Figure 1.2 Draft Order Limits**. The Sections are defined by the geographical alignment of the draft Order Limits and the administrative boundaries of the local authorities. This section provides a description of the existing air quality conditions in the 2 km buffer from the draft Order Limits, which is defined as the Study Area for the baseline assessment. Existing or baseline ambient air quality refers to the concentration of relevant substances that are already present in the environment. These are present from various sources, such as industrial processes, commercial and domestic activities, traffic, and natural sources.
- 14.6.2 Baseline conditions have been gathered from desk-based information and presented with reference to the section of the Project where they are located.

### **Industrial processes**

- 14.6.3 Industrial air pollution sources are regulated through a system of operating permits or authorisations, requiring stringent emission limits to be met and ensuring that any releases to the environment are minimised or rendered harmless. Regulated (or prescribed) industrial processes are classified as Part A(1), A(2), B or Medium Combustion Plant (MCP) processes, regulated through The Environmental Permitting (England and Wales) Regulations 2016 (Ref 14.35). The larger, more polluting processes (Part A(1) and MCP) are regulated by the EA (Ref 14.27), and the smaller less-polluting ones (Part A(2) and Part B) by the local authorities. Local authorities



tend also to regulate only for emissions to air, whereas the EA regulates emissions to air, water and land.

- 14.6.4 The EA register (Ref 14.27) shows there is one Part A(1) process, with activities that release emissions to the air, within the draft Order Limits. The Spalding Energy Expansion Limited gas-fired power generation facility (permit number EPR/AP3732KC) is located on the edge of the 2 km buffer within Section 1.
- 14.6.5 The contribution of industrial processes to local air quality is included in the background concentrations presented under 'background pollutant concentrations' below, based on Defra's modelled background pollution maps (Ref 14.20). These maps incorporate emissions from a range of sectors including industrial sources. However, it is acknowledged that industrial processes, particularly those that are new or atypical, may not be fully represented in the background data.

### Road traffic

- 14.6.6 In recent decades, atmospheric emissions from transport on a national basis have grown to match or exceed other sources in respect of many pollutants, particularly in urban areas. The main sources of traffic emissions surrounding the draft Order Limits are the A15, A1, A606, A607, A427, A6, A47, A13, A45, A43, A4500 and the A14. Although the total length of these roads within the 2 km buffer from the draft Order Limit is relatively short, vehicle emissions will still have a contribution to air pollution both within and around the Study Area.

### Local air quality management

- 14.6.7 The Environment Act 2021 (Ref 14.1) requires local authorities to report to Defra on local air quality and local air quality management within their local authority area. This also requires an assessment of compliance with the relevant limit or objective values.
- 14.6.8 The Project has been divided into five Sections as described in **Chapter 4 Description of the Project** and shown in **Figure 1.2 Draft Order Limits**. The Sections are defined by the geographical alignment of the draft Order Limits and the administrative boundaries of the local authorities. The baseline environment is reported for the Sections along the 2 km buffer from the draft Order Limits in the respective sections below.
- 14.6.9 Where air quality compliance objectives are not predicted to be met, local authorities must declare the area as an AQMA. In addition, local authorities are required to produce an Air Quality Action Plan (AQAP) which includes measures to improve air quality in the AQMA. No AQMAs have been identified within 2 km of the draft Order Limits.

### Section 1: South Holland District Council

- 14.6.10 South Holland District Council operates automatic and diffusion tube monitoring sites (Ref 14.22). There are two roadside monitoring sites in South Holland District Council within the 2 km buffer from the draft Order Limits. The locations are shown in **Figure 14.1 Air Quality Study Area and Constraints**. **Table 14.4** presents the annual mean NO<sub>2</sub> concentration of the diffusion tube monitoring sites from 2020 to 2023, as the latest year published from South Holland District Council. No exceedances of the NO<sub>2</sub> annual mean objectives (40 µg/m<sup>3</sup>) were recorded at these monitoring sites.

## Section 2: South Kesteven District Council

- 14.6.11 South Kesteven District Council operates automatic and diffusion tube monitoring sites (Ref 14.23). However, none of these sites are located within the 2 km buffer from the draft Order Limits.

## Section 3: Melton Borough Council

- 14.6.12 Melton Borough Council operates automatic and diffusion tube monitoring sites (Ref 14.24). There is one roadside diffusion tube monitoring site in Melton Borough Council within the 2 km buffer from the draft Order Limits. The location is shown in **Figure 14.1 Air Quality Study Area and Constraints**. **Table 14.4** presents the annual mean NO<sub>2</sub> concentration of the diffusion tube monitoring sites from 2020 to 2024, as the latest year published from Melton Borough Council. No exceedances of the NO<sub>2</sub> annual mean objectives (40 µg/m<sup>3</sup>) were recorded at this monitoring site.

## Section 4: Harborough District Council

- 14.6.13 Harborough District Council operates automatic and diffusion tube monitoring sites (Ref 14.25). There are two roadside monitoring sites in Harborough District Council within the 2 km buffer from the draft Order Limit. The locations are shown in **Figure 14.1 Air Quality Study Area and Constraints**. **Table 14.4** presents the annual mean NO<sub>2</sub> concentration of the diffusion tube monitoring sites from 2020 to 2024, as the latest year published from Harborough District Council. No exceedances of the NO<sub>2</sub> annual mean objectives (40 µg/m<sup>3</sup>) were recorded at these monitoring sites.

## Section 5: Northamptonshire (including both North Northamptonshire Council and West Northamptonshire Council)

- 14.6.14 North Northamptonshire Council does not have any automatic monitoring sites (Ref 14.26), but it undertakes diffusion tube monitoring of NO<sub>2</sub>. There are seven diffusion tube monitoring sites in North Northamptonshire Council within the 2 km buffer from the draft Order Limits. The diffusion tube monitoring sites in Northamptonshire (Section 5) are operated by Wellingborough Town Council at the locations shown on **Figure 14.1 Air Quality Study Area and Constraints**. **Table 14.4** presents the annual mean NO<sub>2</sub> concentration of the diffusion tube monitoring sites from 2023 to 2024, as the only years with the data published from Northamptonshire. No exceedances of the NO<sub>2</sub> annual mean objectives (40 µg/m<sup>3</sup>) were recorded at these monitoring sites.

Table 14.4 2020-2024 Annual mean NO<sub>2</sub> concentrations (µg/m<sup>3</sup>) at diffusion tube monitoring sites

| Monitoring Sites ID | X      | Y      | Type     | Sections                                   | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------|--------|--------|----------|--------------------------------------------|------|------|------|------|------|
| SH5                 | 526585 | 328726 | Roadside | Section 1 - South Holland District Council | 11.0 | 11.6 | 12.1 | 11.1 | -    |
| SH15                | 524182 | 325804 | Roadside |                                            | 17.6 | 19.9 | 19.6 | 17.5 | -    |
| DT5                 | 474704 | 320100 | Roadside | Section 3 - Melton Borough Council         | -    | 24.9 | 24.3 | 22.2 | 20.1 |
| 37n                 | 473749 | 287214 | Roadside | Section 4 - Harborough District Council    | 20.3 | 20.7 | 20.9 | 20.1 | 18.1 |
| 50n                 | 473678 | 286931 | Roadside |                                            | 12.8 | 14.9 | 13.8 | 18.8 | 14.6 |
| W3                  | 487831 | 267169 | Roadside | Section 5 - North Northamptonshire Council | 25.8 | 18.8 | 20.5 | 20.2 | 19.2 |
| W12                 | 485058 | 264690 | Suburban |                                            | -    | -    | -    | 10.3 | 10.7 |
| W13                 | 485419 | 262904 | Suburban |                                            | -    | -    | -    | 8.9  | 8.4  |
| W21                 | 486999 | 268577 | Kerbside |                                            | -    | -    | -    | 15.0 | 15.8 |
| W22                 | 486508 | 267322 | Roadside |                                            | -    | -    | -    | 13.2 | 13.3 |
| W23                 | 486800 | 266864 | Roadside |                                            | -    | -    | -    | 15.3 | 15.6 |
| W24                 | 487872 | 269656 | Suburban |                                            | -    | -    | -    | 17.8 | 18.3 |

Notes:

- : no data available

### Background pollutant concentrations

- 14.6.15 Background concentrations refer to the existing levels of pollution in the atmosphere, produced by a variety of stationary and non-stationary sources, such as roads and industrial processes. The Defra website (Ref 14.20) includes estimated background pollutant concentrations for NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> for each 1 km by 1 km Ordnance Survey (OS) grid square in the UK.
- 14.6.16 The baseline year for the assessment is the most recent for which local monitoring data are available, 2024.
- 14.6.17 For the purposes of the DES, the 2024 Defra background concentrations of NO<sub>2</sub> are found to be well below the relevant AQO within the 2 km buffer from the draft Order Limits. The highest background NO<sub>2</sub> concentration is 9.8 µg/m<sup>3</sup> in Section 3, well below the AQO of 40 µg/m<sup>3</sup>.
- 14.6.18 The background concentrations of NO<sub>x</sub> (relevant to ecological receptors) are low within the 2 km buffer from the draft Order Limits, and there are no exceedances of the AQO for the protection of vegetation of 30 µg/m<sup>3</sup>. The highest background concentration of NO<sub>x</sub> is 12.8 µg/m<sup>3</sup> in Section 3.
- 14.6.19 The background concentrations of PM<sub>10</sub> do not exceed the annual mean AQO (40 µg/m<sup>3</sup>). The highest PM<sub>10</sub> concentration within the 2 km buffer from the draft Order Limits is 16.3 µg/m<sup>3</sup> in Section 2. Background concentrations of PM<sub>2.5</sub> are also not exceeding the relevant AQO, in this case 10 µg/m<sup>3</sup>, where the highest concentration within 2 km of the draft Order Limits is 8.6 µg/m<sup>3</sup> in Section 5.
- 14.6.20 The average 2024 background pollutant concentrations within the 2 km buffer from the draft Order Limits for each Section are presented in **Table 14.5**.

Table 14.5 Average 2024 Defra projected background concentrations (µg/m<sup>3</sup>) within the Study Area for each section

| Sections                                    | 2024            |                 |                  |                   |
|---------------------------------------------|-----------------|-----------------|------------------|-------------------|
|                                             | NO <sub>2</sub> | NO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Section 1 - South Holland District Council  | 5.7*            | 7.2             | 13.4             | 6.0               |
| Section 2 - South Kesteven District Council | 5.4             | 6.8             | 12.7             | 6.0               |
| Section 3 - Melton Borough Council          | 5.7             | 7.1             | 12.3             | 6.2               |
| Section 4 - Harborough District Council     | 5.5             | 6.9             | 11.4             | 6.1               |
| Section 5 - North Northamptonshire Council  | 6.4             | 8.1             | 12.5             | 6.6               |

\*Note: The Study Area (2 km from the draft Order Limits) covers multiple OS grid squares. Therefore, the results presented above are the averages taken from the grid square for each Section in 2024 as this is consistent with the latest year of local authority monitoring.

### Receptors

- 14.6.21 The presence of human and ecological receptors has been identified for the baseline assessment within the draft Order Limits. Relevant receptors that may be affected by dust during construction have also been considered.

## Human receptors

- 14.6.22 Sensitive receptors include:
- residential receptors;
  - commercial receptors, e.g., places of work; and
  - community receptors, e.g., community centres or parks.
- 14.6.23 Receptors that merit particular attention due to the relative vulnerability of people who may occupy them, include:
- areas where people would expect a high level of personal amenity;
  - medical facilities;
  - residential care homes or sheltered accommodation; and
  - schools, nurseries, and other places of education where children or young people are present.
- 14.6.24 The route of the Project has been selected to avoid large residential and urban areas, as far as practicable, and therefore avoids likely areas of poor air quality. Full details of human receptors will be provided in the ES once the Study Areas have been refined.
- 14.6.25 The main communities identified within the draft Order Limits and the 250m buffer include settlements at Corby Glen, Haconby, Swayfield, Garthorpe, Ab Kettleby, Asfordby, Frisby on the Wreake, Twyford, Lowesby, Cold Newton, Marefield, Tilton on the Hill, Skeffington, Tugby, Rolleston, Noseley, Goadby, Glooston, Stonton Wyville, Cranoe, Welham, Weston by Welland, Sutton Bassett, Great Bowden, Dingley, Braybrooke, Harrington, Orton, Loddington, Great Cransley, Mawsley, Broughton, Orlingbury, Little Harrowden, Hardwick, Earls Barton and Grendon.

## Ecological receptors

- 14.6.26 There are both designated and non-designated ecological receptors within 50 m of the draft Order Limits. These include 15 ecological receptors in total within 50 m of draft Order Limits. There is one Special Protection Area, one Ramsar site, four Sites of Special Scientific Interest (all internationally and nationally designated) and nine ancient woodlands, as shown in **Table 14.6**. Full details of ecological receptors will be provided in the ES once the Study Areas have been refined.

Table 14.6 Average Sensitive ecological receptors within 50 m of the draft Order Limits

| Designated Sites | Ecological Sites                     | Site Name                                   |
|------------------|--------------------------------------|---------------------------------------------|
| Statutory        | Sites of Special Scientific Interest | Birch Spinney and Mawsley Marsh (Section 5) |
|                  |                                      | Dunsby Wood (Section 2)                     |
|                  |                                      | Twenty Acre Piece (Section 3)               |
|                  | Site of Special Scientific Interest  |                                             |



| Designated Sites | Ecological Sites        | Site Name                                 |
|------------------|-------------------------|-------------------------------------------|
|                  | Special Protection Area | Upper Nene Valley Gravel Pits (Section 5) |
|                  | Ramsar site             |                                           |
| Non-statutory    | Ancient woodlands       | Breaches Wood (Section 2)                 |
|                  |                         | Cransley Wood (Section 5)                 |
|                  |                         | Dunsby Wood (Section 2)                   |
|                  |                         | Freeby Wood (Section 3)                   |
|                  |                         | Great Osgrove Wood (Section 2)            |
|                  |                         | Herricho Wood (Section 2)                 |
|                  |                         | Little Osgrove Wood (Section 2)           |
|                  |                         | Norwood/West Woods (Section 2)            |
|                  |                         | Stonton Wood (Section 4)                  |

## Future Baseline

- 14.6.27 The future baseline relates to known or anticipated changes to the current baseline, in the future, in the absence of the Project. Relevant factors in defining the future baseline and considered in this DES are described here or will be considered in the ES.
- 14.6.28 Even if the Project were not to come forward, there is likely to be a change to the future baseline conditions because of other factors and developments in proximity. The future baseline represents the conditions that would prevail without development in place.
- 14.6.29 Background air pollutant concentrations are currently available using 2021 base year for mapped projections (Ref 14.20). These are predicted to improve over time due to reductions in emissions resulting from:
- reductions in transport emissions resulting from improvements in fuel efficiency, technology and uptake in low emission vehicles;
  - general reduction in the use of fossil fuels;
  - reductions in pollutant emissions from agricultural sources due to improvements in management envisaged in the 2019 Clean Air Strategy (Ref 14.37); and
  - improved emission standards for NRMM and static generators.
- 14.6.30 The year of peak construction for the Project is assumed to be 2031 and it is anticipated that site access and construction would commence in 2030, with the main construction works expected to continue through to 2035.
- 14.6.31 The 2030 Defra background concentrations for NO<sub>2</sub> are well below the objective of 40 µg/m<sup>3</sup> within 2 km from the draft Order Limits. The highest background NO<sub>2</sub> concentration in 2030 is 8.3 µg/m<sup>3</sup> in Section 3.

- 14.6.32 The 2030 background concentrations of NO<sub>x</sub> (relevant to ecological receptors) are below the limit value for the protection of vegetation of 30 µg/m<sup>3</sup> within 2 km of the draft Order Limits. The highest background concentration of NO<sub>x</sub> is 10.7 µg/m<sup>3</sup> in Section 3.
- 14.6.33 The 2030 background concentrations of PM<sub>10</sub> do not exceed the objective (40 µg/m<sup>3</sup>). The highest concentration within 2 km buffer from the draft Order Limits is 15.8 µg/m<sup>3</sup> in Section 2.
- 14.6.34 The 2030 Defra background concentrations are below the recent PM<sub>2.5</sub> air quality guideline (10 µg/m<sup>3</sup> to be achieved by 2030). The maximum concentration within the draft Order Limits is 8.1 µg/m<sup>3</sup> in Section 5.
- 14.6.35 The forecast shows minimal changes in concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> between baseline year 2024 and construction years 2030 to 2034. Therefore, it is considered that the future baseline in relation to air quality would not change significantly from that described in the baseline (**Table 14.5**) within the timeframe for the construction of the Project.
- 14.6.36 The future Defra background average 2030 and 2034 background pollutant concentrations within the 2 km buffer from the draft Order Limits for each Section are presented in **Table 14.7**.

**Table 14.7 Defra projected background concentrations (µg/m<sup>3</sup>) for each Section**

| Sections                                    | 2030            |                 |                  |                   | 2034            |                 |                  |                   |
|---------------------------------------------|-----------------|-----------------|------------------|-------------------|-----------------|-----------------|------------------|-------------------|
|                                             | NO <sub>2</sub> | NO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>2</sub> | NO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Section 1 - South Holland District Council  | 4.7             | 5.9             | 12.9             | 5.6               | 4.3             | 5.3             | 12.7             | 5.4               |
| Section 2 - South Kesteven District Council | 4.6             | 5.7             | 12.3             | 5.6               | 4.1             | 5.1             | 12.0             | 5.4               |
| Section 3 - Melton Borough Council          | 4.8             | 6.0             | 11.8             | 5.8               | 4.3             | 5.4             | 11.6             | 5.6               |
| Section 4 - Harborough District Council     | 4.6             | 5.8             | 10.9             | 5.7               | 4.2             | 5.2             | 10.7             | 5.5               |
| Section 5 - North Northamptonshire Council  | 5.3             | 6.6             | 12.0             | 6.2               | 4.7             | 5.9             | 11.8             | 5.9               |

\*Note: The Study Area (2 km from the draft Order Limits) covers multiple OS grid squares. Therefore, the results presented above are the averages taken from the grid square for each Section in 2030 and 2034 as this is consistent with the latest year of local authority monitoring.

## 14.7 Design, Standard, and Additional Mitigation Measures

- 14.7.1 Mitigation measures to avoid, reduce, manage, or control potential impacts and resulting effects of the Project are typically described and considered in assessment in three groups or types as defined in **Chapter 5 EIA Approach and Methodology** of this DES. Each measure considered in this preliminary assessment is described in the relevant section below.

### Design Measures

- 14.7.2 The Project and draft Order Limits have been designed to avoid sensitive receptors as far as practicable. This is in accordance with the Holford Rules (Ref 14.30) applicable to routing of new overhead lines and the Horlock Rules (Ref 14.31) which apply to the design and siting of substations.

### Standard Measures

- 14.7.3 Standard measures are those that would be implemented on a project of this scale and nature regardless of being subject to statutory assessment. As such, it can be assumed these measures will be applied in the assessment.
- 14.7.4 A range of standard measures for the Project will be adopted throughout the duration of the construction phase. A draft Outline Code of Construction Practice (CoCP) is provided in **Appendix 4A Draft Outline Code of Construction Practice**, which contains a full description of each proposed measure. A summary of the measures relevant to the control and management of impacts that could affect air quality are set out below:
- GG12: on locating potential nuisance activities away from sensitive receptors.
  - GG14: on maintenance and operation of plant and vehicles.
  - GG15: on materials and equipment handling.
  - GG20: on earthworks and soil stockpiling.
  - GG21/AQ06: on prohibiting burning of materials.
  - TT01: on construction traffic management.
  - AQ01 to AQ06: requiring the preparation of a Dust Management Plan and measures to reduce and manage dust.

### Additional Mitigation Measures

- 14.7.5 Additional mitigation measures are those identified through assessment to reduce likely significant adverse environmental effects which may still occur despite the inclusion of the embedded design and standard measures described above.
- 14.7.6 There are no additional mitigation measures proposed to minimise effects on air quality at this stage. This will be reconsidered at the ES stage.
- 14.7.7 The mechanisms by which all mitigation measures will be secured and delivered will be set out in the ES.

## 14.8 Preliminary Assessment of Effects

- 14.8.1 A summary of potential impacts and mitigation measures identified in this preliminary assessment, and likely significance of the resulting effect with that mitigation in place, is provided in **Table 14.9**. Where appropriate for likely significant or notable effects, further explanation is provided in the following section on construction effects. A preliminary assessment of effects during the Operational and Maintenance phases is scoped out in accordance with **Appendix 5B Scoping Opinion** and **Appendix 5A EIA Scoping Report**.

### Construction

#### Construction dust

- 14.8.2 The preliminary likely significant effects of the Project have been considered based upon currently available data relating to the construction phase of the Project.
- 14.8.3 The construction effects have been assessed following the IAQM methodology (Ref 14.11). The likelihood of dust soiling and impacts on human health and ecological receptors during each phase has been summarised in **Table 14.8** and further details can be found in **Appendix 14B Air Quality Assessment Results**.
- 14.8.4 Due to the risks identified, without applying mitigation measures, there would be potential for significant effects. However, proposed standard mitigation measures for high-risk sites are listed in section 14.7.4 and set out in detail in **Appendix 4A Draft Outline Code of Construction Practice**. Following the implementation of the proposed standard mitigation measures, the effects of construction on dust soiling and human health are anticipated to be not significant, in line with IAQM guidance (Ref 14.7 and Ref 14.11).
- 14.8.5 The mitigation measures within **Appendix 4A Draft Outline Code of Construction Practice** would be applied in a proportionate manner based on the risk criteria set out in the IAQM guidance. For example, in areas where there are no receptors within 250 m of works there would be a much lower risk from dust impacts and as such the mitigation would be applied in a suitable manner based on risk.

Table 14.8 Summary of construction dust effects (prior to mitigation)

| Activity                                        | Dust soiling | Human health | Ecological  |
|-------------------------------------------------|--------------|--------------|-------------|
| Removal of Existing Infrastructure (Demolition) | High Risk    | Low Risk     | Medium Risk |
| Earthworks                                      | High Risk    | Medium Risk  | High Risk   |
| Construction                                    | High Risk    | Medium Risk  | High Risk   |
| Trackout                                        | High Risk    | Medium Risk  | High Risk   |

### Construction traffic

- 14.8.6 Construction traffic data suitable for screening in an air quality assessment was not available during the preparation of the DES, and therefore the need for a detailed assessment cannot be determined at this time.
- 14.8.7 When available, the traffic data will be reviewed against the screening criteria detailed in the EPUK and IAQM planning guidance (Ref 14.13), which are set out in paragraphs 14.5.7 to 14.5.10. If the criteria are met, a detailed assessment for human and ecological receptors will be undertaken and reported at the ES stage.
- 14.8.8 Human and ecological receptors within the Study Area (defined in paragraph 14.5.11) have been identified and presented in **Appendix 14A Air Quality Assessment Methodology**. These receptors have the potential to be affected by construction-related vehicle emissions and the likely impacts will be assessed at the ES stage. The appendix also provides an early indication of receptors that could potentially be at risk due to the increase of construction traffic.

### Construction generator use/NRMM

- 14.8.9 Generator effects can be sufficiently mitigated by measures including, but not limited to, locating them away from sensitive receptors, increasing the release height of emissions for sufficient dispersion, and relevant abatement technology. The need to apply mitigation at specific locations will be determined in the ES.
- 14.8.10 No specific data on the exact location of generators and NRMM is available at this stage of the Project. The numbers of units to be used and estimates of daily use have not yet been determined at the DES stage, but will be available at the ES stage. Generators and NRMM are likely to be used along the length of the Project during construction, but their use would be intermittent and occur for sporadic periods at differing locations within the draft Order Limits, with concentrations of activity around compounds and work areas. It is not likely that emissions would occur over a long enough time to have a significant effect on receptors.
- 14.8.11 The use of construction NRMM with suitable controls and site management is “*unlikely to result in significant effects on local air quality*” according to the guidance from LAQM (TG22) paragraph 7.30 (Ref 14.14). Standard mitigation measures in **Appendix 4A Draft Outline Code of Construction Practice** state that NRMM and plant will conform to relevant applicable standards to meet the European Stage VI engine emission standards for generators.
- 14.8.12 Therefore, it is considered that effects as a result of emissions from construction equipment and plant are likely to be negligible and not significant; however, this will be reviewed in the ES.



Table 14.9 Preliminary summary of air quality effects

| Receptor(s)                                                               | Key Design, Standard and Additional Mitigation                                                                                                                                                                                                                                                                                         | Impact                                                                         | Magnitude of Change             | Sensitivity/ Value | Likely Significance of Effect                                                                           |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------|--------------------|---------------------------------------------------------------------------------------------------------|
| Human receptors sensitive to dust                                         | Dust mitigation is in <b>Appendix 4.1 Draft Outline Code of Construction Practice</b>                                                                                                                                                                                                                                                  | Construction dust (worst-case)<br>Dust soiling - High<br>Human health - Medium | Large dust generation potential | High sensitivity   | Negligible following the application of appropriate mitigation. A negligible effect is not significant. |
| Ecological receptors sensitive to dust                                    | Dust mitigation is in <b>Appendix 4.1 Draft Outline Code of Construction Practice</b>                                                                                                                                                                                                                                                  | Construction dust (worst-case)<br>Ecological - High                            | Large dust generation potential | High sensitivity   | Negligible following the application of appropriate mitigation. A negligible effect is not significant. |
| Human receptors sensitive to vehicle emissions during construction        | <i>To be considered at ES stage, as construction traffic data suitable for screening in an air quality assessment was not available during the preparation of the DES.</i>                                                                                                                                                             |                                                                                |                                 |                    |                                                                                                         |
| Ecological receptors sensitive to vehicle emissions during construction   |                                                                                                                                                                                                                                                                                                                                        |                                                                                |                                 |                    |                                                                                                         |
| Human receptors sensitive to generators and NRMM during construction      | <i>To be assessed further at ES stage due to the absence of specific location of the generators and NRMM data at DES stage. At this stage, it is considered that effects as a result of emissions from construction equipment and plant are likely to be negligible and not significant; however, this will be reviewed in the ES.</i> |                                                                                |                                 |                    |                                                                                                         |
| Ecological receptors sensitive to generators and NRMM during construction |                                                                                                                                                                                                                                                                                                                                        |                                                                                |                                 |                    |                                                                                                         |

## Alternative scenarios

- 14.8.13 As described in Section 4.4 of **Chapter 4 Description of the Project**, there are elements of the Project which have not been fixed at this stage. Therefore, flexibility needs to be considered in this DES. Two alternative scenarios are outlined in **Table 4.3 of Chapter 4 Description of the Project** and are assessed in **Table 14.10** below.
- 14.8.14 This assessment considers each scenario, together with the assumptions and mitigation measures described in this chapter. It provides a qualitative appraisal of the potential changes to the preliminary conclusions reported in this section, should these scenarios occur.
- 14.8.15 **Table 14.10** presents the conclusions of this appraisal, supported by appropriate qualitative justification, to ensure that any potentially significant effects are identified in this DES. If these alternative scenarios remain under consideration in the application for development consent, they will be appropriately assessed in the ES.

Table 14.10 Preliminary assessment of alternative scenarios

| Scenario                                              | Potential change in impacts                                                                                                                                                                                                                                                                                                                        | Potential change in effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. No or reduced haul roads                           | This scenario could change the spatial distribution of construction traffic emissions, by increasing traffic on existing public roads and reducing emissions associated with on-site haul routes. It could reduce on-site dust and exhaust emissions associated with haul road use.                                                                | At this stage, construction traffic data suitable for screening in an air quality assessment was not available during the preparation of the DES, and therefore the resulting impacts and effects have not been reported. Whilst this scenario may result in a redistribution of impacts, with a potential increase in vehicle emissions at receptors located along the public road network and a reduction at receptors located near on-site haul roads, these changes are not expected to materially affect the magnitude of impacts. This is due to the temporary nature of construction activities and the implementation of standard mitigation measures. Therefore, this scenario is not anticipated to result in new or different significant effects if it were included as part of the Project. |
| 2. Off-site construction compound near Melton Mowbray | This scenario could introduce a new temporary emissions source from plant, NRMM and construction traffic associated with the off-site compound. However, there are no ecological receptors in close proximity, and the nearest residential receptor is located approximately 150 m from the compound, limiting the potential for material impacts. | At this stage, no specific data on the exact location and scale of generators and NRMM is available, and therefore the resulting impacts and effects have not been quantified. While this scenario could introduce localised emissions from NRMM and construction traffic, the absence of nearby ecological receptors and the separation distance of approximately 150 m to the nearest residential receptor would limit exposure. Given the temporary nature of construction activities and the                                                                                                                                                                                                                                                                                                         |

| Scenario | Potential change in impacts | Potential change in effects                                                                                                                                                                                                                       |
|----------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                             | implementation of standard mitigation measures, any impacts are expected to be of negligible magnitude. Therefore, this scenario is not anticipated to result in new or different significant effects if it were included as part of the Project. |

## 14.9 Monitoring

14.9.1 No monitoring measures have been identified as required.

## 14.10 Further Assessment

14.10.1 The ES will present a detailed assessment in accordance with industry good practice guidance as detailed in the methodology (Section 14.5).

14.10.2 The following assessment will be conducted and presented within the ES:

- construction dust assessment, based on the assessment presented at DES stage and updated or confirmed using more detailed construction information where available;
- construction traffic assessment, with further screening and assessment to be undertaken in the ES where the criteria set out in Section 14.5 are met, informed by confirmed construction traffic data; and
- an assessment of emissions from construction-related generators and NRMM, to be confirmed and refined in the ES as additional information on plant and equipment becomes available.

# References

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- Ref 14.12 Institute of Air Quality Management (IAQM) (2018) Guidance on Monitoring in the Vicinity of Demolition and Construction Sites [online] Available at: [https://iaqm.co.uk/text/guidance/guidance\\_monitoring\\_dust\\_2018.pdf](https://iaqm.co.uk/text/guidance/guidance_monitoring_dust_2018.pdf). [Accessed 16 December 2025].
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