Volume 1, Chapter 5

Approach to the EIA
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5. **APPROACH TO THE EIA**

5.1 **Introduction**

5.1.1 This chapter sets out the approach to the Environmental Impact Assessment (EIA) for the DCO Project. This represents the approach upon which subsequent aspect assessment chapters are based to support consultation being undertaken under Sections 42 – 47 of the Planning Act 2008 (PA 2008). This consultation will inform the evolution of the DCO Project before a formal application is made for it to be authorised under that Act.

5.1.2 The approach to the EIA process is underpinned by the Airport National Policy Statement (ANPS), which brings together the legislative and site-specific Government requirements and sets out principles for the EIA scope and process.

5.1.3 The aspect assessments have been carried out using the general approach and processes set out in this chapter. Where required, aspects have refined the approach set out here in order to properly address their particular requirements. Any changes to the approach set out here are set out in the appropriate aspect chapter (Chapters 7 to 21). This enables the PEIR to provide a preliminary assessment of the ‘likely significant environmental effects’ of the DCO Project, using information available at this time. The EIA has been developed to include the information reasonably required to enable a reasonably informed response to the Airport Expansion Consultation (AEC) (June 2019).

5.1.4 The approach for assessing the potential likely significant effects of lighting associated with the DCO Project is set out in Appendix 5.2: Lighting assessment methodology statement, Volume 3.

5.1.5 The approach for assessing the potential in-combination effects is set out in Chapter 22: In-combination effects.

5.1.6 The remainder of this chapter is structured as follows:

1. **Section 5.2: The EIA process** – this section sets out an overview of the legislative and guidance background of the EIA process

2. **Section 5.3: Scoping** – this section sets out the legislative and guidance background for the scoping process, and a history of the scoping process undertaken for the DCO Project

3. **Section 5.4: Scope of the assessment** – this section describes the scope of the assessment in terms of the technical scope (aspects), the geographical area (spatial scope) and the time periods considered (temporal scope)
4. **Section 5.5: The airspace change process** (ACP) - this section provides an overview of the legislation, the stages of the ACP, and how the DCO Project and ACP interface with each other

5. **Section 5.6: Approach to assessment of significance** – this section describes the process of evaluating significance, including the consideration of magnitude of impact, value or sensitivity of receptor and any environmental measures

6. **Section 5.7: Approach to environmental measures** – this section describes the legislative and guidance background to the development of embedded, good practice and additional measures and how they are considered within the assessment process and describes the approach to monitoring

7. **Section 5.8: Assessment of cumulative effects** – sets out the requirement for an assessment of cumulative effects, the selection criteria for other projects and the approach to the assessment

8. **Section 5.9: Assessment of In-combination effects** – Provides a brief description of what 'in-combination' effects are, and which chapter of this PEIR sets out the approach and assessment

9. **Section 5.10: Assessment of transboundary effects** – sets out the legislative and guidance background of transboundary effects and describes the scoping out of further assessment of these effects.

**5.2 The EIA process**

**Overview**

5.2.1 EIA is a process for identifying the likely significant environmental effects (positive and negative) of proposed developments to inform the decision-making process for development consent to be granted.

5.2.2 The Airports National Policy Statement (ANPS) June 2018 provides the primary basis for decision making on development consent applications for the airport expansion, which is the primary objective of the DCO Project. The ANPS sets out EIA principles in relation to the DCO Project. Specifically, the ANPS requires the EIA to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them.

5.2.3 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the ‘EIA Regulations’) set out the procedures to be followed in relation to EIAs undertaken for Nationally Significant Infrastructure Projects (NSIPs) in England
and Wales. The EIA for a Development Consent Order (DCO) is reported in two stages:

1. The Preliminary Environmental Information Report (PEIR), prepared in order to inform the consultation with the public and other stakeholders about the proposed scheme and its likely significant environmental effects

2. The Environmental Statement (ES), prepared to accompany the DCO application.

5.2.4 In compliance with the EIA Regulations an EIA is being undertaken for the DCO Project and will be reported in an ES. The ES will be submitted in support of the application for development consent. The purpose of the ES is to help the decision maker, statutory consultees, other stakeholders and the public properly understand the predicted likely significant effects and the scope for reducing them, before a decision is made as to whether to permit development.

5.2.5 In accordance with the Department for Communities and Local Government’s (DCLG’s) EIA Planning Practice Guidance (DCLG, 2017) and the Planning Inspectorate’s Advice Note Seven: EIA: Process, Preliminary Environmental Information and Environmental Statements (Planning Inspectorate, 2017) the assessment has, and will continue to, focus on aspects and matters where a likely significant effect may occur; this approach ensures that the EIA process is proportionate and focuses effort in those areas where significant effects are likely.

5.2.6 Regulation 12 of the EIA Regulations defines preliminary environmental information as information referred to in Regulation 14(2) which:

> ‘a) has been compiled by the applicant and b) is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development and any associated development.’

5.2.7 The findings presented in this PEIR are based on a preliminary assessment and reflect the current stage in the design process and understanding of baseline conditions, allowing for conclusions as to the likely significant effects to be drawn. Where the design is still evolving or further information on baseline conditions is still to be obtained, a precautionary approach is applied to ensure a reasonable worst case is assessed in the PEIR. The PEIR presents a level of preliminary assessment appropriate to support the Airport Expansion Consultation and for consultees to develop an informed view of likely significant effects and helps to inform their consultation responses on the DCO Project. This will then enable both the design of the DCO Project and the EIA to take into consideration any comments received through the Airport Expansion Consultation.
5.2.8 The EIA process is summarised in Graphic 5.1. The remainder of this chapter provides further detail around the key stages in this process with a focus on those stages most relevant to this preliminary stage of the assessment.

The ES will have to comply, as a minimum, with Regulation 14 and Schedule 4 of the EIA Regulations. Advice Note Seven states that the ES should clearly explain the processes followed, the forecasting methods used and the measures envisaged to prevent, reduce and where possible offset any significant negative
effects. This PEIR is designed to accord with the requirements of the EIA Regulations in relation to ESs as far as possible. However, it is important to note that it represents a preliminary assessment of environmental effects, based on the current stage in the design process. **Table 5.1** signposts to where the information is provided in the PEIR pursuant to Regulation 14 and Schedule 4 of the EIA Regulations.
### Table 5.1: Compliance with the EIA Regulations and location of the information in this PEIR

<table>
<thead>
<tr>
<th>Compliance with Regulation 14 and Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017</th>
<th>Location in this PEIR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Text from Regulation 14</strong></td>
<td><strong>Chapter 3: DCO Project alternatives, Chapter 4: The site and surroundings, Chapter 6: DCO Project description, aspect assessment chapters (Chapters 7 to 22) and a Non-Technical Summary</strong></td>
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</tbody>
</table>

2. An environmental statement is a statement that includes at least:
   (a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;
   (b) a description of the likely significant effects of the proposed development on the environment;
   (c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
   (d) a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
   (e) a non-technical summary of the information referred to in subparagraphs (a) to (d); and
   (f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

3. The environmental statement referred to in paragraph (1) must—
   (a) where a scoping opinion has been adopted, be based on the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion);
   (b) include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the...
## Compliance with Regulation 14 and Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017

<table>
<thead>
<tr>
<th>Text from Schedule 4 and Regulation 14</th>
<th>Location in this PEIR</th>
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<tbody>
<tr>
<td>environment, taking into account current knowledge and methods of assessment; and</td>
<td>Chapter 1: Introduction and Appendix 1.1: Competent experts</td>
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<tr>
<td>(c) be prepared, taking into account the results of any relevant UK environmental assessment, which is</td>
<td></td>
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<td>reasonably available to the applicant with a view to avoiding duplication of assessment.</td>
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<tr>
<td>4. In order to ensure the completeness and quality of the environmental statement –</td>
<td></td>
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<tr>
<td>(a) the applicant must ensure that the environmental statement is prepared by competent experts; and</td>
<td></td>
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<td>(b) the environmental statement must be accompanied by a statement from the applicant outlining the</td>
<td></td>
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<td>relevant expertise or qualifications of such experts.</td>
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### Text from Schedule 4

1. A description of the development, including in particular:
   (a) a description of the location of the development;
   (b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works and the land-use requirements during the construction and operational phases;
   (c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;
   (d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and sub soil pollution, noise, vibration, light, heat, radiation, and quantities and types of waste produced during the construction and operation phases.

2. A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer which are relevant to the proposed project and its specific

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5.7 © Heathrow Airport Limited 2019
### Compliance with Regulation 14 and Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017

<table>
<thead>
<tr>
<th>Text from Schedule 4 and Regulation 14</th>
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<tbody>
<tr>
<td>characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.</td>
<td>Chapter 4: The site and surroundings and the aspect assessment Chapters (Chapters 7 to 21)</td>
</tr>
<tr>
<td>3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.</td>
<td>Aspect assessment chapters (Chapters 7 to 21).</td>
</tr>
<tr>
<td>4. A description of the factors specified in regulation 5 (2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora) land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape</td>
<td>Aspects that need to be assessed under the EIA Regulations and relevant PEIR Chapters:</td>
</tr>
<tr>
<td>1. Population: Chapter 7: Air quality and odour, Chapter 11: Community, Chapter 18: Socio-economics and employment, Chapter 12: Health, Chapter 15: Landscape and visual amenity, Chapter 17: Noise and vibration, Chapter 19: Transport network users</td>
<td></td>
</tr>
<tr>
<td>2. Human health: Chapter 12: Health, Chapter 7: Air quality and odour, Chapter 17: Noise and vibration, Chapter 14: Land quality</td>
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<tr>
<td>3. Biodiversity: Chapter 8: Biodiversity</td>
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<td>4. Land and Soil: Chapter 14: Land quality</td>
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<tr>
<td>5. Water: Chapter 21: Water environment</td>
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</tr>
<tr>
<td>6. Air: Chapter 7: Air quality and odour, Chapter 9: Carbon and greenhouse gases</td>
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</tr>
<tr>
<td>7. Climate: Chapter 10: Climate change, Chapter 21: Water environment</td>
<td></td>
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<tr>
<td>8. Material assets: Chapter 11: Community Chapter 18: Socio-economics and employment, Chapter 20: Waste</td>
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</table>
### Compliance with Regulation 14 and Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017

<table>
<thead>
<tr>
<th>Text from Schedule 4 and Regulation 14</th>
<th>Location in this PEIR</th>
</tr>
</thead>
</table>
| 5. A description of the likely significant effects of the development on the environment resulting from, inter alia:  
  (a) The construction and existence of the development including, where relevant, demolition works;  
  (b) The use of natural resources, in particular, land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;  
  (c) The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances and the disposal and recovery of waste;  
  (d) The risks to human health, cultural heritage or the environment (for example due to accidents or disasters);  
  (e) The cumulation of effects with other existing and/or approved projects taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;  
  (f) The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;  
  (g) The technology and the substances used. | 9. Cultural heritage: Chapter 13: Historic environment  
10. Landscape: Chapter 15: Landscape and visual amenity  
11. The inter-relationship between the above factors: Chapter 22: In-combination effects  
12. Major accidents or disasters: Chapter 16: Major accidents and disasters |

The description of the likely significant effects on the factors specified in regulation 5 (2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, 

Aspect assessment chapters (Chapters 7 to 21)
### Compliance with Regulation 14 and Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017

<table>
<thead>
<tr>
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<tr>
<td>permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC (a) and Directive 2009/147/EC (b)</td>
<td>Chapter 5: Approach to the EIA and aspect Chapters 7 to 21.</td>
</tr>
<tr>
<td>6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.</td>
<td>Chapter 5: Approach to the EIA and aspect assessment Chapters (Chapters 7 to 21).</td>
</tr>
<tr>
<td>7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.</td>
<td></td>
</tr>
<tr>
<td>8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council (c) or Council Directive 2009/71/Euratom (d) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.</td>
<td>Chapter 16: Major accidents and disasters</td>
</tr>
</tbody>
</table>
## Compliance with Regulation 14 and Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>9. A non-technical summary of the information provided under paragraphs 1 to 8.</td>
<td>Non-Technical Summary</td>
</tr>
<tr>
<td>10. A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.</td>
<td>Aspect assessment chapters (<a href="#">Chapters 7 to 21</a>) and <a href="#">Chapter 23: Bibliography</a></td>
</tr>
</tbody>
</table>
5.2.10 The preparation of this PEIR is an important step of the EIA process for NSIPs (as set out in Chapter 1: Introduction and Graphic 5.1). Heathrow is actively seeking comments from consultees and there will be the opportunity for the design of the DCO Project and the EIA to have regard to and take account of comments received on the PEIR.

5.3 Scoping

Overview

5.3.1 As the DCO Project falls within Schedule 1 of the EIA Regulations, it is treated as automatically requiring an EIA. For this reason, no screening request was made to the Secretary of State. Instead, and in accordance with Regulation 8(1)(b) of the EIA Regulations, Heathrow notified the Secretary of State in writing of their proposal to make an application for development consent for the DCO Project and to provide an ES in support of this.

5.3.2 Pursuant to Regulation 4 of the EIA Regulations, the Secretary of State must not make an order granting development consent for an application for EIA development unless an EIA has been carried out in respect of that application. ‘EIA development’ is defined in Regulation 3(1) of the EIA Regulations by reference to developments set out in Schedules 1 or 2 of the EIA Regulations.

5.3.3 A Scoping Report for the DCO Project was submitted to PINS on behalf of the Secretary of State on the 21 May 2018. The Scoping Report presented the components of the DCO Project at a number of locations and in a range of design configurations. It set out the approach to defining the study area, baseline data gathering and methodologies for assessment of the likely significant effects recognising these were not dependent on the final choice of precise location or detailed design of the components. The opinion of the Secretary of State was sought specifically on:

1. The environmental topics that should be included in the EIA
2. The relevant components of the DCO Project and the resultant likely significant effects
3. Those effects not likely to be significant that do not need to be considered further
4. The approach to setting the study areas for each topic
5. The data that has been gathered (and will be gathered)
6. The assessment methods that will be used to determine likely significant effects
7. The approach to determining the environmental measures that could be incorporated into the DCO Project to avoid, prevent, reduce or, if necessary, offset significant effects.

5.3.4 A Scoping Opinion was subsequently adopted by the Secretary of State on 2 July 2018, and the responses to the Scoping Report from consultation bodies were also provided. The Scoping Opinion and the statutory consultee responses have been used to inform assessment work and the iterative development of design undertaken to date and the preparation of this report. Responses to the Scoping Opinion comments, detailing how they have been addressed within this PEIR are provided within each of the chapters, and a full list is presented in Appendix 5.1, Response to the Scoping Opinion, Volume 3. Given the preliminary nature of the PEIR, any comments that are pending a full response are identified, next steps clarified, and actions to be concluded within the ES set out. Appendix 5.1 does not include responses to each of the comments raised in consultation bodies' individual responses to the Secretary of State as part of the scoping exercise (attached to the Scoping Opinion itself), however, regard has been had to those responses in the preparation of the PEIR. A summary of the engagement undertaken to date is set out in Chapter 1: Introduction (Section 1.5).

5.3.5 The Scoping Report presented the land considered at that time to be likely to be required for the DCO Project. As the DCO Project design has developed through Heathrow’s scheme development process, and as a result of ongoing engagement, this area has been modified, resulting in small changes to the land required. The way this has evolved since scoping is described in Chapter 3: DCO Project alternatives, and the DCO Project assessed in this PEIR is presented in Chapter 6: DCO Project description. The DCO Project remains materially the same as that described in the Scoping Report, and therefore the Scoping Opinion remains applicable to the DCO Project.

5.4 Scope of the assessment

Introduction

5.4.1 The scope of the assessment determines what is in the assessment of the DCO Project with regard to:

1. The technical scope – the aspects
2. The spatial scope – the geographical area
3. The temporal scope – the time periods.
Technical scope of the assessment

5.4.2 The technical scope of the EIA has been evaluated as part of this PEIR preparation and has been informed by the Scoping Opinion. This has determined the extent to which aspects are likely to give rise to significant effects. The aspects that are addressed in the PEIR as giving rise to likely significant effects are as follows and are presented in the aspect chapters (Chapters 7 – 21):

1. Air quality and odour
2. Biodiversity
3. Carbon and greenhouse gases
4. Climate change
5. Community
6. Health
7. Historic environment
8. Land quality
9. Landscape and visual amenity
10. Major accidents and disasters
11. Noise and vibration
12. Socio-economics and employment
13. Transport networks users
14. Waste
15. Water environment.

Spatial scope

Overview

5.4.3 The spatial (or geographic) scope is the area over which significant effects to the environment are likely to occur. The area varies depending on the relevant aspect and has been determined by reference to the nature of the potential effects, the physical extent of the works and the location of environmental receptors\(^1\). These are termed ‘study areas’ and are described within each of the aspect chapters.

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\(^1\) people (e.g. residents of buildings, users of facilities, employees of businesses), built resources (e.g. listed buildings) and natural resources (e.g. a site of ecological importance)
Each of the aspect chapters (Chapters 7 to 21) sets out the assessment methodology used including the approach to defining the study areas. The geographic location and context within which the Airport sits is described in Chapter 4: The site and surroundings.

**Parameter approach**

In order to establish the spatial scope of environmental assessment, the PEIR adopts what is termed a ‘Rochdale Envelope’ or parameter-based approach. The ES will do the same. The Rochdale Envelope is an approach to environmental assessment that aims to take account of the need for flexibility in the evolution of detailed design, which is often required for complex infrastructure projects that have a long construction programme. It involves the establishment of a maximum design envelope within which the final detailed design of the project will sit.

The use of this approach enables this PEIR to provide a description of the location, design and size of the DCO Project that is suitable to allow a preliminary assessment of its ‘likely significant environmental effects’, and includes the information reasonably required to enable a properly informed response to the Airport Expansion Consultation (AEC) (June 2019). The flexibility of this approach will allow ongoing design evolution with regard to relevant consultation responses received from AEC.

PINS has produced Advice Note Nine: Using the Rochdale Envelope (Planning Inspectorate 2018), which outlines the approach that can be taken, in accordance with the requirements of the EIA Regulations, where some details of the DCO Project have not yet been confirmed when the application is submitted and where flexibility is sought to address this uncertainty. It sets out the key principles and their applicability in the context of applications for development consent as follows:

“The DCO application documents should explain the need for and the timescales associated with the flexibility sought and this should be established within clearly defined parameters

The clearly defined parameters established for the Proposed Development must be sufficiently detailed to enable a proper assessment of the likely significant environmental effects and to allow for the identification of mitigation, if necessary within a range of possibilities

The assessments in the ES should be consistent with the clearly defined parameters and ensure a robust assessment of the likely significant effects

The DCO must not permit the Proposed Development to extend beyond the ‘clearly defined parameters’ which have been requested and assessed. The Secretary of State
may choose to impose requirements to ensure that the Proposed Development is constrained in this way

The more detailed the DCO application is, the easier it will be to ensure compliance with the Regulations.”

5.4.8 Paragraph 4.17 of the ANPS states that where details are still to be finalised at the application stage the Applicant is advised to set out in the ES the relevant design parameters used for the assessment. As such it is anticipated in the ANPS that the scale and complexity of the DCO Project means it is likely to have to adopt a parameters based approach.

5.4.9 A parameter-based approach is adopted for the assessment of the DCO Project in this PEIR, with the relevant parameters defined in Chapter 6. In each of the aspect chapters, maximum parameters are identified which are then used as the basis for assessing the realistic worst-case environmental effects associated with the DCO Project. The same approach will be adopted for the ES. Development permitted by the DCO would not extend beyond the clearly defined parameters assessed in the ES.

Baseline

Current baseline

5.4.10 Determining the existing environmental conditions is an important part of the EIA process. This is established through desk-based study and/or surveys of the study area and provides a ‘baseline’ against which changes potentially caused by the DCO Project can be compared. This is explained within the individual aspect chapters.

5.4.11 The current baseline year differs between aspects, being dependent on the year(s) in which baseline data were collected or modelled. Data informing the baseline assessment should be ‘current’ in the sense that it is not ‘out of date’. The baseline data informing the assessments is explained in the relevant aspect chapters. These judgements are informed by aspect specific industry guidance. Aspect chapters have obtained data consistent with specific guidance.

Future baseline

5.4.12 Heathrow's realistic plan for growth with two runways is called the two runway future baseline, or the ‘future baseline’. The future baseline sets out where there may be changes caused by other developments (amongst other factors) that would occur over time in the absence of the proposals and thus would be representative of the anticipated baseline at the start of each assessment phase.
These changes may take place before the proposals are implemented, during their construction or during operation.

5.4.13 Multiple future baseline scenarios will be defined for both construction and operational assessments. This is to reflect changes in the baseline conditions due to, for example, aircraft/road vehicles becoming quieter or less ‘polluting’. In addition, future baseline year(s) will not be defined as simply a ‘do nothing’ scenario. This is because the Airport would, even without proposals for expansion, still develop to satisfy the needs of airlines, passengers and the Civil Aviation Authority (CAA). Therefore, a two runway future baseline scenario has been produced that sets out how the Airport would be expected to evolve in the absence of expansion, and this will form the basis of the future baseline.

5.4.14 The two runway future baseline scenario provides consistent projections of:

1. Air traffic and passenger numbers – Although the Airport is subject to an operational cap of 480,000 Air Transport Movements (ATMs), it could seek to modestly increase passenger numbers whilst operating within that limit, for example through changes in average aircraft size or increased efficiencies through fleet modernisation.

2. On-airport development - Heathrow is continually improving its infrastructure and passenger facilities. This means that when assessing the effects of the DCO Project, other projects that Heathrow already has consent for or is bringing forward should be included in the future baseline. By the estimated time of commencement of construction of the DCO Project, two projects, the Kilobox Apron Development and the Runway Access Taxiway project, will be constructed and operational (see Table 5.1 for a description of these projects). These two developments are therefore included in the future baseline for the PEIR and embedded within each of the aspect assessments where relevant. The on-airport development future baseline will be kept under review and will be updated for the ES where required.

3. Transport network users – Future baseline scenarios assume that there would continue to be two runways at Heathrow, and that growth in passenger volumes and associated activity at the Airport would be limited to what is likely and possible in the context of two runways. The status of future transport infrastructure (including new rail connections, road infrastructure and any planned upgrades in Local Transport Plans) will also be factored into the future baseline and is described in Section 19.9 of Chapter 19: Transport Network Users.

4. Off-airport development – There is the potential for future development promoted by others outside of the Airport to result in new future receptors or to have their own environmental effects which need to be taken into account.
Development that result in new future receptors will be classified as part of the future baseline if completed and operational in the relevant assessment phase, consistent with PINS Advice Note Seventeen (Planning Inspectorate, 2017). Such developments have been identified through the cumulative effect assessment process which is detailed in Section 5.8. For the PEIR, consideration of relevant off-airport development including those that may result in new future receptors, has been included in the CEA within each aspect chapter where relevant. For ES, it is intended to include relevant off-airport development that forms new future receptors in the future baseline, with the likely significant effects of these and all other airport development in combination with the DCO Project identified through the primary aspect assessments.

5. Airspace – Potential airspace changes at Heathrow Airport have been applied when determining the operational assumptions for establishing the future baseline. These changes represent those projects at Heathrow Airport which at the time of application for development consent for the DCO Project, either exist or which are approved and for which the effects are determined. Detailed assumptions around these airspace changes are provided in Appendix 17.1: Noise policy and detailed assessment methodologies, Volume 3 and in Chapter 17: Noise.

5.4.15 The aspect chapters will use appropriate population and employment forecasts or projections in defining their future baselines in accordance with aspect-specific guidance and standard practice.

5.4.16 Further details of the approaches to the definition of current and future baseline adopted for the assessment of individual aspects is provided in Chapters 7 to 21, including a description of the current baseline scenario for each aspect.

**Temporal scope**

**Overview**

5.4.17 The temporal scope of the assessment refers to the time periods over which effects may be experienced.

5.4.18 The way that the DCO Project will be phased means there will be overlap in construction and operational activities. To enable clear and robust assessment of the effects associated with these activities, the assessment has been split into a number of phases. As each phase of the DCO Project is constructed and comes into operation, operational effects over and above those identified as part of the future baseline will occur. These are assessed and reported, alongside construction effects.
5.4.19 Once completed, the expanded Airport will be a permanent feature. Closure and decommissioning of the facility is not therefore considered as part of the assessment.

Assessment Years

5.4.20 Construction and operational activities related to the DCO Project will occur at the same time during the phases of development due to Heathrow Airport being in operation. The effects of these activities are likely to be experienced at different receptors, at different times. For example, one receptor may be affected by a construction activity whereas another, at the same time, is affected only by noise from overflying aircraft.

5.4.21 Furthermore, it may not be that the maximum operating capacity represents the point at which effects are at their most significant. For example, as newer more technologically advanced aircraft are introduced noise pollution is expected to reduce, even as ATMs numbers increase. Similarly, vehicles on the road are likely to get less polluting, as those powered by combustion engines are replaced by electric vehicles. For this reason, road traffic may increase but the quality of air may improve.

5.4.22 This means that for the aspect assessments carried out within the EIA, there is no single year that would result in the identification of the ‘reasonable’ worst case effects, for all aspects. This PEIR has therefore adopted an approach whereby the major periods of construction and operational activities are assessed by reference to a number of ‘core’ years.

5.4.23 These ‘core’ years align with key milestones in the DCO Project, which will be developed over three main phases. The details of the construction and operation activities within these project phases are presented in Chapter 6. The ‘core’ years have been defined as being:

1. **2025** referred to as ‘year of maximum release of first phase of capacity’ – the year at which the proposed phasing of the early release of additional capacity\(^2\) (25,000) are operating for the first time, and during a period where construction activities are intensive. The assessment of early release of additional capacity has been refined since scoping, in recognition of the incremental increase of ATMs, year on year, starting in 2022 and expected not

\(^2\) As part of the DCO Project the early release of additional capacity from the existing airport infrastructure is proposed, prior to opening of the new runway. This would be achieved by lifting the existing cap of 480,000ATMs per annum, and potentially increasing the total number of ATMs by 25,000, incrementally over a four-year period, in advance of the new runway opening. This would enable the two existing runways to accommodate a total of around 505,000ATMs annually. In addition, one of the benefits of early growth would be that it would bring forward some of the advantages of expansion, as it would enable Heathrow to implement its commitment to scheduling flights later in the morning from 05:30.
to exceed approximately 25,000 additional ATMs by 2025 (505,000 ATMs in total)

2. **2027** referred to as ‘first full year of North West Runway operations’ – the first full calendar year when the North West Runway is operational. During this year construction activities other than those associated with the North West Runway will continue.

3. **2035** referred to as ‘year of minimum ANPS capacity’ – the year that reflects the likely point when the development delivers the base ANPS requirement of 740,000 ATMs. This year and number of ATMs was used by the Department for Transport (DfT) for the purposes of assessing the ANPS.

4. **2050** referred to as ‘year of maximum ATM capacity’ – the year when the DCO Project will have reached its maximum forecasted ATM and passenger capacity.

5.4.24 These ‘core’ years provide a point of reference for each aspect to identify the year(s) that would likely result in the worst-case effects. The ‘core’ years may not always include activities likely to result in the reasonable worst-case effects for a particular aspect. In these cases, the aspect assessment will identify an additional year that is considered will result in the worst-case effects for that aspect, and the reasons for this are explained in the relevant aspect chapters (**Chapters 7 to 21**).

In considering whether the ‘core’ years represent the likely worst-case years for each relevant aspect, or whether additional years need to be selected, regard has been had to the following:

1. Current baseline
2. Future baseline
3. Maximum environmental effects during construction
4. Maximum environmental effects during operations and
5. Maximum ATMs.

5.4.25 This approach enables each aspect to identify the realistic worst-case environmental effect. The assessment years identified by the aspects, as likely to result in the realistic worst-case effects, are reported in the relevant aspect chapters (refer to **Chapter 7 to Chapter 21**).
5.5 The airspace change process

Introduction

5.5.1 The expansion of Heathrow is not only about the physical changes required on the ground. Building a North West Runway also requires the airspace around Heathrow to be updated to allow flights to land on and take off from the North West Runway, and will also lead to changes to the existing flight paths aircraft follow. The process of applying for these changes is known as the airspace change process (ACP).

5.5.2 The application for development consent will amongst other things aim to obtain development consent for the construction of new infrastructure, additional air transport movements and appropriate operating controls and restrictions will be put in place to enable the development to proceed. However, the DCO will not authorise changes to the design of the airspace around Heathrow. New flight paths require approval from the CAA, or the Secretary of State in the event that the airspace change decision is called in, through the ACP which is a separate consenting regime from the DCO.

5.5.3 This section provides an overview of relevant legislation, the stages of the ACP, and explains how the DCO Project and ACP interface with each other.

Legislative background

5.5.4 In the UK, the CAA is the independent aviation regulator, which, under Section 66 of the Transport Act 2000, has several responsibilities including approving any changes to UK airspace. Approval of changes to airspace is dependent on a number of factors, set out in Section 70 of the Transport Act 2000, including safety, security and environmental considerations.

5.5.5 Guidance on the ACP is provided in the CAA’s publication CAP 1616, Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements (Civil Aviation Authority, 2018). Additional information on environmental requirements of the ACP is detailed in CAP 1616a, Airspace Design: environmental requirements technical annex (Civil Aviation Authority, 2017). The CAA in carrying out its air navigation functions, and the wider industry (including airport operators like Heathrow) in the course of their operations, are guided by the Government’s Air Navigation Guidance (Department for Transport 2017). It is this document that sets the environmental objectives in relation to airspace design and air navigation.
5.5.6 The DfT is responsible for all aviation policy in the UK, including airspace. The CAA is the organisation responsible for airspace regulation and for the ACP, which all airspace change sponsors must follow.

5.5.7 Heathrow’s airspace change for submission for expansion will follow the CAA’s CAP 1616 and CAP 1616a guidance. This guidance provides a process framework for changing airspace, and places great importance on engaging, consulting on airspace proposals with a wide range of stakeholders and providing evidence to the CAA to support claims made in the application. A full ES complying with CAP 1616a must accompany an application for airspace change.

5.5.8 **Graphic 5.2** shows the stages of the ACP process. There are a series of gateways at which an airspace change proposal is examined by the CAA: at each gateway Heathrow must satisfy the CAA it has followed the process correctly before being allowed to move to the next stage in the process.
### Interface between the DCO process and the ACP

5.9 The DCO process and ACP are separate processes, but the expansion at Heathrow has been designed to ensure they interface with each other effectively, for example by enabling information derived from the ACP to inform the DCO at appropriate stages. The interface between the processes is recognised in paragraph 5.50 of the ANPS:

“The Airports Commission’s assessment was based on ‘indicative’ flight path designs, which the Government considers to be a reasonable approach at this stage in the process.”
Precise flight path designs can only be defined at a later stage after detailed airspace design work has taken place. This work will need to consider the various options available to ensure a safe and efficient airspace which also mitigates the level of noise disturbance.

Once the design work has been completed, the airspace proposal will be subject to extensive consultation as part of the separate airspace decision making process established by the Civil Aviation Authority.

5.5.10 As the two processes are separate, they are approved in different ways and have different programmes. The respective programmes for the DCO Project and the associated ACP and how they inter-relate are shown in Graphic 5.3.

5.5.11 The following consultations have been undertaken on the ACP to date:

1. Airport Expansion Consultation One (January to March 2018) sought feedback on ‘airspace design principles’, which guide the design and structure of Heathrow’s future airspace. Supplementary engagement was undertaken, and the CAA granted permission for Heathrow to pass the Define Gateway (Graphic 5.4) (Civil Aviation Authority, 2019). The Interim Consultation Feedback Report (January 2019) provides an overview of the consultation, feedback received, and Heathrow’s responses to issues raised. Where appropriate, this has fed back into the DCO Project design and the EIA.

2. The Airspace and Future Operations Consultation (January to March 2019) presented ‘design envelopes’, which are the broad areas within which it is technically possible to position one or more flight paths. Design envelopes are not a CAA requirement, but they give an opportunity for stakeholder engagement at an early stage of the design because they show how Heathrow’s airspace changes could potentially affect different geographical areas. Design envelopes were developed by Heathrow’s team of air traffic control specialists who identify where each new or changing flight path could feasibly be positioned, considering safety requirements and technical limitations.

5.5.12 As final flight path positions are not currently available, the assessments in the PEIR are, and the assessments in the ES will be, based on ‘indicative flight path designs’ as specified in paragraph 5.50 of the ANPS. These will be based on ‘test cases’ drawn from the ACP process for PEIR and ES. Test cases are indicative airspace designs developed from a ‘snap shot’ early in the airspace change process.

5.5.13 The CAP 1616 requires that a comprehensive list of airspace design options is generated which is then ‘whittled down’ (Civil Aviation Authority, 2018, p154) through a series of evaluation and appraisal steps, each of which reduces the number of options and increases the detail available for each option. Because the ACP will be applied for and determined after DCO is granted, Heathrow will
include appropriate information from the relevant stage of the ACP at both PEIR and ES to support the EIA. The PEIR test cases have been drawn from the ACP process before this comprehensive list has been established. The ES will draw its test cases before the initial appraisal of the impacts of each of the airspace options (Step 2B of the ACP) has completed.

5.5.14 The test case designs will therefore represent a range of potential airspace design options which are still under consideration as part of the ACP at the time of the PEIR and ES. By drawing directly from the ACP these test cases represent the range of future flight paths available at the time of PEIR and ES (the latter being submitted with the application for development consent) and therefore represent the ‘indicative flight path designs’ as referenced in the ANPS. Appendix 17.1: Noise policy and detailed assessment methodologies, Volume 3 explains how these indicative flight path test cases will enable a worst-case assessment of aircraft noise to be undertaken for PEIR and ES.

5.5.15 Although the range of potential airspace design options is still to be confirmed through the ACP, there is a greater degree of certainty around flight path locations in close proximity to the runways where the airspace design is primarily dictated by the runway position. Flight paths will be designed based on Heathrow’s agreed Airspace Design Principles, feedback from the Airspace and Future Operations Consultation on design envelopes, ongoing airspace design work and stakeholder engagement and a statutory ACP consultation.

5.5.16 The precise position of the final flight paths for the expanded Airport will be determined by the ACP, which includes a process of consultation and environmental assessment. Guidance for the ACP environmental assessment is outlined in CAP 1616 and CAP 1616a and includes a requirement for an assessment of noise, local air quality, CO₂ emissions, tranquillity and biodiversity. This environmental assessment work takes place throughout Stages 1 to 4 of the ACP, and forms part of a statutory consultation at Stage 3. The environmental assessment for the ACP will be ongoing at the same time as the DCO Project, but it will not be complete until the ACP is submitted (at Stage 5 of the ACP), which occurs after the DCO Project submission and decision (refer to Graphic 5.3).

5.5.17 This approach has been discussed with both PINS and the CAA. Further work is underway to ensure both PINS and the CAA receive the information they require to consider the respective DCO Project and ACP submissions.
### Graphic 5.3: Indicative timelines for the DCO Project and airspace change for the DCO Project

<table>
<thead>
<tr>
<th>HEATHROW EXPANSION</th>
<th>AIRSPACE CHANGE FOR EXPANSION (THE FLIGHT PATHS AIRCRAFT WILL FLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN – MAR 2018</td>
<td>Airport Expansion Consultation</td>
</tr>
<tr>
<td>JAN – MAR 2019</td>
<td>Airspace Principles Consultation</td>
</tr>
<tr>
<td>JUN – SEP 2019</td>
<td>Airspace and Future Operations Consultation</td>
</tr>
<tr>
<td></td>
<td>Runway operations</td>
</tr>
<tr>
<td>WE ARE HERE</td>
<td>Ongoing airspace design work and stakeholder engagement</td>
</tr>
<tr>
<td></td>
<td>New runway, physical infrastructure and operational changes</td>
</tr>
<tr>
<td></td>
<td>needed for expansion</td>
</tr>
<tr>
<td>2020 Submission</td>
<td>Submission of Development Consent Order (DCO) application</td>
</tr>
<tr>
<td>2020 Examination</td>
<td>Examination of DCO application</td>
</tr>
<tr>
<td>2021 Decision</td>
<td>Decision made by Secretary of State</td>
</tr>
<tr>
<td>2021 Construction</td>
<td>Main construction starts</td>
</tr>
<tr>
<td>2022 Consultation</td>
<td>Flight path options</td>
</tr>
<tr>
<td>2023 Submit</td>
<td>Submit proposal for airspace change to the Civil Aviation</td>
</tr>
<tr>
<td></td>
<td>Authority (CAA)</td>
</tr>
<tr>
<td>2023 Decision</td>
<td>Decision made by the CAA</td>
</tr>
<tr>
<td>2024 - 2026</td>
<td>New Flight paths implemented</td>
</tr>
</tbody>
</table>

5.5.18 In addition to the DCO Project and the ACP needed for the North West Runway, airspace modernisation is taking place throughout the UK and Europe, which requires airspace changes to be made regardless of the DCO Project. Therefore,
airspace modernisation will take place at a two runway Heathrow (if development consent for the DCO Project is not granted) or at a three runway Heathrow (if development consent for the DCO Project is granted).

5.5.19 Airspace in the South-East of England is one of the busiest in the world with Heathrow, Gatwick, Stansted, London City and Luton within the London Terminal Manoeuvring Area (TMA) and a number of smaller airports within the vicinity.

5.5.20 In order to update the airspace and make it more efficient, major changes to flight paths will be taking place across the UK in the coming years as the Government embarks on its Airspace Modernisation Strategy. This programme is being overseen by the DfT and CAA.

5.5.21 The aim of the strategy is to make use of modern navigational technology to make the airspace more efficient; improve safety, improve punctuality, cut CO\textsubscript{2} emissions, reduce noise from aircraft-holding at low levels, and to ensure there is capacity to meet predicted future demand.

5.5.22 This strategy requires three broad areas of airspace to be modified:

1. Airspace up to approximately 7,000ft: All of the UK’s main airports are required, and responsible for, modernising their airspace. This is known as Future Airspace Implementation, South (FASI-S) which involves NATS and, currently, 17 airports. FASI-S is the term used to encompass the overall programme to modernise airspace in the southern part of the UK.

2. Airspace above 7,000ft to the FL305 altitude level\(^3\), known as ‘en-route airspace’: NATS are required to modernise the network that sits above these airports through the London Airspace Modernisation Programme (LAMP).

3. Above the FL305 altitude level: This is part of a Europe-wide modernisation project, called the Single European Sky, to make the skies above Europe more efficient. The Single European Sky is the highest altitude of airspace and, in the UK, NATS are responsible for changes made to this airspace.

5.5.23 Heathrow are members of the FASI-S working group. The modernisation of the en-route airspace and airspace at other main airports each require their own separate airspace change, following the CAP 1616 (Civil Aviation Authority, 2018) framework for approval.

5.5.24 Heathrow plans to undertake the process to modernise its airspace at the same time as the DCO Project. Heathrow is responsible for the design of any changes to flight paths into and out of the Airport up to approximately 7,000ft above ground.

\(^3\) FL305 altitude level is ‘Flight Level 305’. This is approximately 30,500 feet above mean sea level, depending on the local atmospheric pressure.
level. The timetable for the North West Runway airspace change is planned to be
aligned with FASI-S.

5.5.25 Heathrow is also planning certain separate airspace changes in relation to the
existing two runway Airport and these are planned for implementation prior to the
opening of the third runway; an example of this is the introduction of Independent
Parallel Approaches, which Heathrow consulted on as part of The Airspace and

5.5.26 The PEIR takes account of all airspace changes relevant to each environmental
aspect, as outlined in the relevant chapters from Chapter 7 to Chapter 21.

5.5.27 Comments received in the Scoping Opinion relating to the ACP (for example,
relating to the methodology of CAP 1616 and the DCO) have been acknowledged
and the responses are set out in Appendix 5.1.

5.5.28 Airspace changes at other airports, which have the potential to result in cumulative
effects with the DCO Project, are discussed in Section 5.8 Assessment of
cumulative effects.

5.6 Approach to assessment of significance

Overview

5.6.1 Graphic 5.4 sets out the approach to the evaluation of significance of likely
environmental effects that may arise from the DCO Project. The graphic sets out
the general process of evaluating significance incorporating the consideration of
magnitude of impact, value or sensitivity of receptor and any environmental
measures that are embedded into the design of the DCO Project to reduce likely
effects. This approach has been applied in undertaking the EIA, as part of the
PEIR and will also be applied for the ES.

5.6.2 Variations to the approach, which may be applicable to specific environmental
aspects, are detailed in each environmental aspect chapter (Chapters 7 to 21).
The assessment of likely significant effects has proceeded through an iterative process which includes Baseline, Prediction, Evaluation, Environmental Measures and Residual Effects.

### 1. Baseline

**What are the environmental conditions against which changes arising as a result of the DCO Project should be considered?**

<table>
<thead>
<tr>
<th>Current baseline</th>
<th>Future baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>The existing environmental conditions of the Site, determined through desk-based study and/or surveys. The DCO Project is compared against the current baseline to establish what potential changes it may generate.</td>
<td>What the environmental conditions are likely to be in the future without the DCO Project. This is because the Airport will still develop even without the DCO Project. Other potential future changes to the receiving environment are also considered in more detail in the aspect chapters.</td>
</tr>
</tbody>
</table>

### 2. Prediction

**What will happen to the environment as a consequence of the DCO Project?**

<table>
<thead>
<tr>
<th>Value or sensitivity of receptor</th>
<th>Magnitude of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>The value or sensitivity of a receptor is established by considering several factors such as the rarity, fragility, replaceability and geographical context. Sensitivity also includes the capacity of the resource or receptor to accommodate changes, or to recover. For the DCO Project, value or sensitivity is categorised as either high, medium or low, unless stated otherwise. Aspect chapters provide further detail on what represents a high, medium or low value or sensitivity of receptor in relation to the individual aspect.</td>
<td>The magnitude of an impact is defined as the overall level of change in the environment, with consideration of several factors such as the extent over which that impact occurs, its duration, likelihood, frequency and reversibility. For the DCO Project, magnitude is categorised as either high, medium, low or negligible, unless stated otherwise. Aspect chapters provide further detail on what represents a high, medium, low or negligible impact in relation to the individual aspect. The DCO Project already includes embedded and good practice environmental measures at this stage.</td>
</tr>
</tbody>
</table>

### 3. Evaluation

**Positive or negative? Does the effect matter? How important or significant is it?**

Significance criteria have been applied to determine the likely significance of each effect. Significant criteria are derived by combining the magnitude of impact and the value and sensitivity of the resource(s) and/or receptor(s) affected. These significance criteria are applied to determine the likely significance of each effect. In arriving at the significance of each effect, the assessor also considers whether the effect is direct, indirect, secondary, cumulative, short medium or long term, permanent or temporary. Effects can be positive or negative.

Where an effect is assessed as negative and significant, consideration is given to developing additional environmental measures to reduce the significance of the effect.

<table>
<thead>
<tr>
<th>Sensitivity of resource</th>
<th>Magnitude of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High (significant)</td>
</tr>
<tr>
<td>Medium</td>
<td>Moderate (not significant/significant)</td>
</tr>
<tr>
<td>Low</td>
<td>Minor (not significant)</td>
</tr>
<tr>
<td>Negligible</td>
<td>Minor (not significant)</td>
</tr>
</tbody>
</table>

For the purposes of the DCO Project:
- ‘major’ effects will always be deemed to be significant.
- ‘moderate’ effects are usually deemed to be significant (although deemed to be non-significant in some aspect specific circumstances).
- ‘minor’ and ‘negligible’ effects are deemed to be non-significant.

The criteria for assessing the significance of any effects are clearly defined for each aspect in the appropriate aspect chapter. Aspect chapters provide further detail on variations to this approach.

### 4. Environmental measures

If it is negative and significant, can anything be done about it?

The EIA Regulations require an ES to include a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset any likely significant adverse effects on the environment.

For the purposes of the DCO Project, such features or measures are referred to as ‘environmental measures’. The Institute of Environmental Management and Assessment (IEMA, 2016) provides guidance on three broad categories of environmental measures:

1. **Embedded (primary) measures**: Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the DCO Project, and do not require additional action to be taken.
2. **Additional (secondary) measures**: Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the DCO, or through inclusion in the ES.
3. **Good practice (tertiary) measures**: Actions that would occur or be excluded before the EIA feeding into the design process. These include actions that would be undertaken in order to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

### 5. Residual effects

Is it still significant taking into account environmental measures?

The initial assessment of likely significant effects is based on embedded and good practice environmental measures. Where likely significant effects are identified, additional environmental measures may be developed in order to reduce the significance of these effects. A further iteration of the assessment process is carried out to identify remaining effects, known as residual effects. These residual effects are then evaluated.
5.7 **Approach to environmental measures**

**Overview**

5.7.1 EIA is an iterative process and opportunities for mitigation, referred to in the PEIR as ‘environmental measures’ have been considered throughout the development of the preferred masterplan, and DCO Project design processes and in the assessment undertaken for the PEIR where likely significant effects have been identified. Where possible, these measures have been developed with input from the providers, operators and users of facilities together with standards, policies and guidance.

5.7.2 The Institute of Environmental Management and Assessment (IEMA, 2016) provides guidance on three broad categories of environmental measures. The three categories of environmental measures are presented in Graphic 5.4: primary, secondary and tertiary measures.

5.7.3 In the context of this PEIR and the ES that will follow, embedded environmental measures are considered to equate to ‘primary environmental measures’ as defined by IEMA (2016). Embedded environmental measures are measures to avoid or reduce environmental effects that are directly incorporated into the preferred masterplan for the DCO Project and the airport operational procedures. This may have been through the consideration and adoption of alternatives or through measures incorporated within the DCO Project design itself. Examples of this type of environmental measures would be the location of a building to avoid encroachment on a designated site or limiting the height of a building to reduce landscape and visual effects. The iterative design process followed has been driven by collaborative working between the design, planning, community and stakeholder, property and environmental teams. Embedded environmental measures are discussed within aspect chapters (Chapters 7 to 21).

5.7.4 In the context of this PEIR and the ES that will follow, additional environmental measures equate to ‘secondary environmental measures’, as defined by IEMA (2016). These are environmental measures not specifically incorporated in the design, but additional environmental measures identified through the EIA process to further reduce environmental effects. An example of additional environmental measures is developing certain lighting limits (beyond those identified within the DCO Project design) to reduce the effects of obtrusive light on nearby sensitive receptors, such as residential properties.

5.7.5 In the context of this PEIR and the ES that will follow, good practice environmental measures equate to ‘tertiary environmental measures’, as defined by IEMA (2016). These are environmental measures that would occur with or without input from EIA feeding into the design process (for example, mitigation that represents
established industry practice or that would be undertaken to meet existing legal requirements). It includes, for example, standard practices used to manage commonly occurring environmental effects such as recognised means of dust control on construction sites, good practice environmental measures to reduce construction noise or manage surface water runoff; these effects would be controlled through their inclusion in the draft Code of Construction Practice (CoCP). Also captured under this classification are environmental measures that would be set out in any operational guidance produced. These environmental measures are outlined in Chapter 6. The aspect specific assessments have assumed these environmental measures would be incorporated as a matter of course and although they may reference these measures and identify where they are captured, they have not described them at any length within the assessment.

5.7.6 In the event that the EIA process identifies significant effects on the environment, but the assessment does not have sufficient detail to propose an environmental measure for the PEIR, an ‘environmental principle’ has been developed as a statement of intent to avoid, prevent or reduce and, if possible, offset likely significant negative effects. The aspect chapters (Chapters 7 to 21) will identify and develop environmental principles to reduce potentially significant effects, as necessary. The environmental principles will form the basis for the development of detailed environmental measures at a later stage. Depending on the progress of the respective assessments, the aspect chapters will identify detailed environmental measures.

5.7.7 For the purposes of the PEIR, the preliminary assessment of likely significant effects is based on the assumption that embedded and good practice environmental measures (as defined in paragraphs 5.7.3 and 5.7.5) have been incorporated into the DCO Project design.

5.7.8 Compensation can be developed to address some aspect effects which other environmental measures cannot address, making up for the loss of, or permanent damage to resources and have been considered where significant harm cannot be avoided or mitigated for biodiversity.

5.7.9 Preliminary views on ‘additional environmental measures and compensation’ (paragraph 5.7.4) have been outlined where possible and these will evolve as the DCO Project develops and will be reported in the ES.

5.7.10 Chapters 17 (Noise and vibration) and Chapter 9 (Carbon and greenhouse gases) use the term ‘mitigation’ (rather than environmental measure) for consistency with relevant policy (see the relevant chapters for further explanation).

5.7.11 The Habitats Regulations Assessment (HRA) also uses the term ‘mitigation’ but has a specific definition that differs to that used in relation to EIA. In the Appendix 8.5: HRA screening report, the mitigation outlined meets the
requirements of the Habitats Regulations and takes into consideration case law specific to those Regulations.

**Monitoring**

5.7.12 Monitoring measures may be required in relation to any significant negative effects on the environment caused by the DCO Project, including any environmental measures that are committed to and imposed as a requirement in the DCO Project. Whilst the need for and type of monitoring is still evolving, any monitoring proposed at this stage with respect to significant negative effects will be identified in the aspect chapters (Chapters 7 to 21).

5.7.13 It is proposed to put in place a framework for Environmentally Managed Growth. This framework would establish a regime through which Heathrow would monitor and report against the headline effects of growth in relation to the principal operational aspects of air noise, air quality and surface access. Heathrow would report annually to an independent body who would be empowered through the DCO to ensure that the effects of operational growth remain consistent with the various limits set out in the framework. Further details of this approach are set out in the consultation document titled: Environmentally Managed Growth – Our Framework.

**5.8 Assessment of cumulative effects**

**Introduction**

5.8.1 The DCO Project has been considered in combination with ‘other developments’ which are either in development or are expected to be developed in the future, and the resultant environmental construction and operational effects of the developments. These effects are termed cumulative effects.

5.8.2 Schedule 4 of the EIA Regulations requires an ES to include a description of the likely significant effects of the DCO Project on the environment resulting from:

‘the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.’

5.8.3 The need for a cumulative effects assessment (CEA) is also referred to in Paragraphs 4.12, 4.14 and 4.15 of the ANPS.

5.8.4 When considering cumulative effects associated with the DCO Project in the EIA, it is necessary to consider two elements as described below:

1. **Element 1: DCO Project-wide cumulative effects** – the DCO Project-wide CEA considers the cumulative environmental effects of the DCO Project
together with development resulting from the DCO Project that may be consented outside of the DCO Project. This is assessed in the aspect chapters

2. **Element 2: Cumulative effects with ‘other developments’** – following the principles set out in the EIA Regulations, ‘other developments’ includes both plans and projects for which consent has been sought or granted, as well as those already in existence. The CEA considers ‘other development’ in addition to the DCO Project-wide cumulative effects and is assessed in the aspect chapters.

**Methodology**

**Introduction**

5.8.5 The approach to the CEA set out below has been informed by PINS Advice Note Seventeen (Planning Inspectorate, 2015), the specific requirements of the EIA Regulations, the ANPS, comments received through scoping, and Section 51 advice received from PINS.

5.8.6 A summary of the three-stage approach used for Element 2 of the CEA with ‘other development’ for the DCO Project is set out below and is also shown in Graphic 5.5. The DCO Project-wide CEA (Element 1) also broadly follows this approach, however the inclusion/exclusion criteria set out in Stage 1b (set out in Graphic 5.5) does not apply, and all Project-related non-DCO developments are included in the CEA where an assessment is possible.

5.8.7 A principle aim of the CEA for the PEIR is to demonstrate the CEA approach rather than undertake a full detailed CEA, and to facilitate responses to the approach from stakeholders. As such, there are differences between the approach intended for the ES, and that undertaken for the PEIR. These differences are set out in each of the Stages below. Although a full detailed CEA has not been undertaken for the PEIR, a working list of all developments that will be considered in the CEA for the ES has been compiled to provide the opportunity for stakeholders to comment. It should be noted that this list will evolve as the CEA ‘zones of influence’ are refined between PEIR and ES.

5.8.8 A technical note, titled Cumulative Effects Assessment: Update to Proposed Approach (January 2019), was provided to PINS on 7 February 2019, supporting a request for Section 51 advice on the approach to be taken for the CEA, following a meeting held on 30 November 2018 at which an earlier iteration of the same technical note was discussed. In summary, PINS advised that for the ES the Applicant continues efforts to agree the approach with the relevant consultation bodies; that professional judgement is justified and evidenced; that the relationships between the proposed development included within the DCO and
that which is to be delivered through other consent routes, is clearly explained; that if mitigation measures are relied upon for the purposes of the assessment they should be suitably secured; that the assessment cut-off date should be explained and justified; and that in the interests of proportionate assessment, it may be more appropriate for the ES baseline data accompanying the application for development consent to focus on the likely significant effects of the development.
### Graphic 5.5: CEA staged approach

#### Stage 1a: Establish the DCO Project’s zone of influence (ZOI)

**ES and PEIR**
- Aspect CEA ZOIs established.
- Core ZOI identified, based on aspect ZOIs.
- Wider aspect ZOIs, beyond core ZOI, identified where relevant.

#### Stage 1b: Identify inclusion/exclusion criteria

**ES and PEIR**
- Three tiers of ‘other development’ established.
- Specific ‘other development’ inclusion criteria established (relevant to Element 2 only).
- Development Plans identified and reviewed.

#### Stage 1c: Identify ‘other development’ in ZOIs using inclusion criteria

**ES and PEIR**
- Data search for ‘other development’ in core and wider aspect ZOIs (where applicable) using inclusion criteria.
- Project-related non-DCO developments identified.
- Information compiled in a Development Schedule.

#### Stage 2: Information gathering

**ES**
- Basic detail gathered about ‘other developments’.
- Developments shortlisted for assessment.
- Detailed information gathered for shortlisted ‘other developments’ and Project-related non-DCO developments.
- Assumptions on construction or operation status of developments in each EIA assessment year made.

**PEIR**
- Basic detail gathered about ‘other developments’.
- Only developments located within Scoping ZOI shortlisted for assessment.
- Detailed information gathered for shortlisted ‘other developments’ and Project-related non-DCO developments.
- Assumptions on construction or operation status of developments in each EIA assessment year made.
- Further screening of shortlisted ‘other developments’ and Project-related non-DCO developments to produce ‘assessment list’ for PEIR.

#### Stage 3: Assessment

**ES**
- For each environmental aspect, Project-related non-DCO developments and shortlisted ‘other developments’ falling outside aspect ZOIs screened out.
- Where possible, screening criteria relevant to each environmental aspect applied to determine which shortlisted ‘other developments’ have the potential to result in likely significant cumulative effects with the Project, screening out those from further assessment that do not have potential.
- For screened in developments, assessment of cumulative effects, presented in aspect chapters.
- Environmental measures identified.

**PEIR**
- For each environmental aspect, Project-related non-DCO developments and shortlisted ‘other developments’ falling outside aspect ZOIs screened out.
- Where possible, screening criteria relevant to each environmental aspect applied to determine which shortlisted ‘other developments’ have the potential to result in likely significant cumulative effects with the Project, screening out those from further assessment that do not have potential.
- For screened in developments, assessment of cumulative effects, presented in aspect chapters.
Stage 1a: Establish the DCO Project’s ‘zone of influence’

Environmental Statement

5.8.9 The DCO Project’s CEA ‘zones of influence’ (ZOIs) will be established by aspect. These will be defined based on the spatial area within which ‘other development’ could be located, which, together with the DCO Project, could result in likely significant effects on receptors. For many aspects, the aspect ZOI will be larger than the study area used in the aspect primary assessment and will also encompass areas where future receptors may arise.

5.8.10 For planning data collection purposes, a ‘core ZOI’ will be established which covers the maximum extent of the majority of aspect ZOIs. Several aspect ZOIs may be significantly larger than the core ZOI. Within these larger aspect ZOIs, only certain types of ‘other development’ may result in potential cumulative effects and therefore a search for all ‘other development’ meeting all inclusion criteria will not be required.

PEIR

5.8.11 The DCO Project’s CEA ZOIs have been established by aspect (illustrated in Figure 5.1, Volume 2). The detailed rationale for each ZOI will be set out in the ES. The ZOIs and their rationale were detailed in the technical note provided to PINS as part of a request for Section 51 advice. The ZOIs have continued to evolve since this note was drafted.

5.8.12 The majority of aspect ZOIs cover a similar geographical range. For the purposes of data collection, these have been grouped together to produce a ‘core ZOI’ which covers the maximum extent of these aspect ZOIs (see Figure 5.2, Volume 2). However, certain aspect ZOIs are significantly larger than most other aspect ZOIs. These have not been included in the core ZOI as only a restricted range of developments require identifying in these larger ZOIs.

5.8.13 The larger aspect ZOIs which extend outside the core ZOI are described below.

1. The main air quality ZOI consists of an approximate 12km x 11km area that falls within the core ZOI. Within this area, all development types have required identification. However, there is also a need to identify any development that could result in a significant emission source up to 5km from the 12km x 11km area (see Figure 5.3, Volume 2). These developments could also result in cumulative air quality effects. As only a restricted range of developments has required identification (i.e. only those with chimneys), the core ZOI has not been extended to include the 5km buffer.

2. The waste ZOIs (Figure 5.4, Volume 2) match the spatial scope of the Waste Impact Assessment (Chapter 20: Waste), covering the south east region of the
United Kingdom. The focus of the waste capacity CEA is on the effects that the DCO Project would have with other relevant NSIPs. LPA waste capacity data used in Waste Local Plans already take account of committed and planned development (but potentially not large-scale infrastructure projects), and so such development are inherently considered in the Waste Impact Assessment (see Table 20.29 in Chapter 20: Waste for further information). Therefore, the core ZOI has not been extended to include the waste ZOIs as only NSIPs require identification in this large area.

5.8.14 For historic environment, the wider historic environment ZOI extends outside the core ZOI. The wider historic environment ZOI will be kept under review as more information from the airspace change process become available. ‘Other developments’ in the wider historic environment ZOI will be identified at ES stage. See Section 11 of Chapter 13: Historic environment for further information.

Stage 1b: Identify inclusion / exclusion criteria

Environmental Statement

5.8.15 This step involves identifying other developments that could have effects that might overlap in time or space with those of the DCO Project within the ZOIs. Three tiers of ‘other development’ will be considered:

1. Tier 1: developments under construction, permitted application(s) but not yet implemented, and submitted application(s) not yet determined
2. Tier 2: projects on the PINS Programme of Projects where a scoping report has been submitted
3. Tier 3: projects on the PINS Programme of Projects where a Scoping Report has not been submitted, development identified in relevant Development Plans (including emerging Development Plans), and development in other plans and programmes where such development is reasonably foreseeable.

5.8.16 For Tier 1 developments, the inclusion criteria includes DCO Project applications and Hybrid Bills, applications referable to the Mayor⁴, applications called in by the Secretary of State⁵, applications meeting Town and Country Planning Act (TCPA) Schedule 1 and 2 EIA screening criteria, Transport and Works Act (TWA) applications that require an EIA, and local developments within 1km of the draft DCO limits subject to certain exclusions. The inclusion criteria will be applied to all planning applications submitted (and are either consented or pending determination) in the last five years.

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⁴ applicable to developments in LPAs in London
⁵ applicable to developments in LPAs outside of London
For Hybrid Bills and NSIPs in Tiers 1-3, a further check will be undertaken to ensure there are no other NSIPs or Hybrid Bills up to 10km from the maximum extent of all aspect ZOIs, which have the potential to have significant cumulative effects with the DCO Project.

For Tier 3 Development Plans, those associated with local planning authorities (LPAs) that fall within the core ZOI will be reviewed. All Broad Locations and Site Allocations that meet the Tier 1 criteria outlined above will initially be identified. These will be reviewed, and a decision made on whether the policies can be taken forward to assessment based on planning judgements on how likely policies are to come forward and based on the availability of sufficient information to enable a CEA to be completed. The results of the review will form an appendix to the ES. Strategic Policies will be accounted for in the primary assessments that use growthed data.

The three tiers of ‘other development’, the inclusion criteria, and the 10km Hybrid Bill and NSIP check, as set out above for the Environmental Statement, have been adopted for the PEIR. Development Plans falling in the core ZOI have also been identified. For the ES, policies within the Development Plans will be reviewed, and a decision made on which can be taken forward to assessment in the CEA.

Future airspace changes at Heathrow Airport, which are unrelated to the DCO Project, are included in the future baseline, as described in paragraph 5.4.16. A review of airspaces changes at other airports has been undertaken. All consented but not implemented permanent airspace changes under 7000ft within the southeast of the UK have been identified using the CAA website. The search was last updated on the 3 April 2019. Applications under both CAP 1616 and CAP 725 have been reviewed. Of those identified, all airspace changes are sufficiently geographically isolated from both Heathrow Airport and receptors that may experience effects as a result of the DCO Project, such that there is negligible potential for significant cumulative effects to arise.

The closest airspace change to Heathrow Airport is Farnborough Airport’s proposed aerodrome terminal control zone and associated terminal control areas (ACP-2013-07). Farnborough Airport is located approximately 31km from Heathrow Airport. Preliminary noise assessment work considers it highly unlikely that there would be any cumulative effects as a result of this airspace change.
5.8.22 There will be airspace changes at Heathrow Airport in the future, which are unrelated to the DCO Project. These changes will be included in the future baseline, and thus considered inherently in the aspect primary assessments.

5.8.23 Beyond Heathrow Airport, there are a number of airports in the southeast of the UK where changes in the design of their airspaces may result in environmental effects. These could combine with the effects of the DCO Project, resulting in cumulative effects, with receptors experiencing a greater or different level of effect than if the DCO Project was considered in isolation. CAP 1616 sets out priorities for the consideration of environmental impacts in relation to airspace changes (Civil Aviation Authority, 2018). In line with these priorities, it is considered that only additional airspace movements which are under 7,000ft have the potential to result in effects that could cumulate with effects from the DCO Project. Above 7,000ft, it is only CO₂ emissions that are listed as a priority in CAP 1616, and cumulative effects relating to carbon and greenhouse gases are omitted from the CEA as described in Chapter 9: Carbon and greenhouse gases.

5.8.24 As set out in Section 5.4, changes to flight paths will be taking place across the UK in the coming years as the Government embarks on its airspace modernisation strategy. FASI-S encompasses the overall change that will be brought about to modernise airspace in the southern part of the UK. It is expected that airspace proposals associated with airspace modernisation will be submitted to the CAA after the Heathrow application for development consent is submitted to PINS. Until airspace change proposals associated with the modernisation process at other airports are sufficiently advanced, there is not enough information available to understand the potential environmental effects of these other airspace changes. This means that the future changes to be promoted by other airports in the area as part of the modernisation process cannot be considered in the CEA in the PEIR and ES. The modernisation airspace changes will however go through the CAP 1616 process, which will allow for consideration of the related, but separate airspace change proposals.

5.8.25 In addition, and separate to the modernisation strategy, there are also a number of airspace changes which are currently going through the CAA approval process under CAP 1616 or CAP 725 (prior to CAP 1616, the regulatory process to airspace design was set out in CAP 725, and some airspace change proposals are still being progressed under this guidance). As part of the CAA Stage 5 decision gateway in CAP 1616 (or equivalent if under CAP 725), the environmental effects of an airspace change are reviewed and in some cases the Secretary of State for Transport may decide to 'call in' the proposal. Only once an application is
approved (Stage 6 or equivalent) and all design iterations made, are the full environmental effects of the airspace change understood, the programme for implementation confirmed and there is confidence that the change will proceed. Without this, there is insufficient information and certainty to take into account such future airspace changes in the CEA.

5.8.26 Therefore, only airspace changes that are consented but not implemented will be considered in the CEA in the ES (those already implemented are included in the current baseline and therefore do not need to be included in the CEA). Changes which have the potential to increase traffic below 7,000ft (including Level 1\textsuperscript{6} and Level M1\textsuperscript{7} changes under CAP 1616) will be considered (thus excluding Level 0\textsuperscript{8}, all Level 2\textsuperscript{9}, and Level M2\textsuperscript{10} changes under CAP 1616). Level M1 changes will be considered as although the potential environmental impact of a Ministry of Defence (MOD) change is disregarded by the CAA when reaching its decision on such applications, there is still the potential for effects of the DCO Project to be compounded by changes occurring as a result of MOD flight increases. Temporary and trial airspace changes will be excluded on the basis that any environmental effects would be temporary and unlikely to result in significant cumulative effects.

5.8.27 A review of permanent consented but not implemented airspaces changes which have the potential to increase traffic below 7,000ft will be undertaken for the ES. A decision will be made on whether the airspaces changes can or should be taken forward to assessment based on professional judgements on the potential for the airspace change to result in likely significant effects with the DCO Project, and the availability of sufficient information to enable a CEA to be completed. The judgements made and results of the review will be presented within the ES.

PEIR

5.8.28 Future airspace changes at Heathrow Airport, which are unrelated to the DCO Project, are included in the future baseline, as described in paragraph 5.4.16. A review of airspaces changes at other airports has been undertaken. All consented but not implemented permanent airspace changes under 7,000ft within the southeast of the UK have been identified using the CAA website. The search was

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\textsuperscript{6} Level 1 changes are high impact changes to notified airspace design which have the potential to alter traffic patterns below 7,000ft over a populated area.

\textsuperscript{7} Level M1 changes are those sponsored by the Ministry of Defence, where an anticipated consequence of the proposed change is an alteration of civil aviation traffic patterns below 7,000 ft.

\textsuperscript{8} Level 0 changes are changes to nomenclature or qualifying remarks of notified airspace design that will not alter air traffic patterns.

\textsuperscript{9} Level 2 changes are medium to low impact changes to notified airspace design which do not have the potential to alter traffic patterns below 7,000ft over a populated area.

\textsuperscript{10} Level M2 changes are those sponsored by the Ministry of Defence, where an anticipated consequence of the proposed change is either an alteration of civil aviation traffic patterns at or above 7,000ft or no impact on civil traffic.
last updated on the 3 April 2019. Applications under both CAP 1616 and CAP 725 have been reviewed. Of those identified, all airspace changes are sufficiently geographically isolated from both Heathrow Airport and receptors that may experience effects as a result of the DCO Project, such that there is negligible potential for significant cumulative effects to arise.

5.8.29 The closest airspace change to Heathrow Airport is Farnborough Airport’s proposed aerodrome terminal control zone and associated terminal control areas (ACP-2013-07). Farnborough Airport is located approximately 31km from Heathrow Airport. Preliminary noise assessment work considers it highly unlikely that there would be any cumulative effects as a result of this airspace change.

**Stage 1c: Identify ‘other development’ in ZOIs using inclusion criteria**

**Environmental Statement**

5.8.30 For the ES, a data search and collection exercise for ‘other development’ will be undertaken in the core ZOI (and larger aspect ZOIs where relevant) using the inclusion criteria outlined above. The search will be undertaken approximately six months prior to the submission date of the ES. Identified developments will be mapped on a figure and will be listed in a Development Schedule. For each development, the Development Schedule will identify the ‘tier’ of development and relevant trigger criteria. The detailed search methodology used to identify developments within each LPA will be contained in an appendix to the ES.

5.8.31 Project-related non-DCO developments will also be identified where they fall within the aspect ZOIs.

5.8.32 The Development Schedule would be updated a final time prior to examination, to include any new development that have come forward or changed planning status following the application for development consent. Comments received from stakeholders in the Relevant Representations would also be taken into consideration.

**PEIR**

5.8.33 All ‘other development’ that meet the inclusion criteria and are located within the core and larger aspect ZOIs, have been identified, as per Stages 1a-1c. The search was undertaken between December 2018 and March 2019. Identified developments are listed in **Appendix 5.3: Development schedule, Volume 3** and are shown on **Figure 5.5 to Figure 5.7, Volume 2**. Developments that have been considered in the CEAs in the PEIR are indicated by orange points or lines, together with the development reference number (O developments indicate ‘other developments’ and A developments indicate on-airport development). Further
information on which developments are included in the PEIR CEA is described in Stage 2 below.

5.8.34 It is recognised that there are a number of future developments in the pipeline (such as the River Thames Scheme) that are not at the stage where a planning application has been submitted and are therefore not included in the CEA at this time. When the search is updated for the ES, any developments that have progressed to planning application submission stage will be included in the CEA where such development meets the inclusion criteria.

5.8.35 At this stage, there are no Project-related non-DCO developments that can be assessed within the CEA. Consent will be sought for some early construction activities associated with the DCO Project, including the early diversion of the SSE Longford substation through a TCPA application. However, the designs are not sufficiently mature to enable a Project-wide assessment of these activities in the PEIR. These activities will be considered within the ES.

5.8.36 Certain commercial uses, infrastructure and major facilities are expected to be displaced by the DCO Project. The replacement of some of these uses will be delivered through the application for development consent and are included in the DCO Project description in Chapter 6. These include the Immigration Removal Centres, Total Fuel Depot and Total Rail Head. Others will not be included in the application for development consent. The EIA considers removal of these facilities and not their replacement. These include the British Airways’ (BA) Waterside Office, the BT Data Centre, the Aggregate Industries site and the Lakeside Waste Management Facilities.

5.8.37 The BA Waterside Office complex is located north of the A4 Colnbrook Bypass and east of Harmondsworth Moor. The site is located in the path of the proposed third runway. BA and IAG (the parent company of BA) have indicated that a replacement will be required for these facilities. Heathrow are supporting BA with their aspirations to relocate to a new office headquarters. BA are in the process of completing feasibility studies in order to select a preferred location for the new office headquarters in proximity to the airport. BA’s new office headquarters would be consented via a planning application submitted to the LPA, promoted by BA and would not form part of Heathrow’s application for development consent. As the planning application would be submitted by a third party, and it is not known where and when the site would be relocated to, it is not included in the Project-related non-DCO development assessment.

5.8.38 Any areas within the existing Waterside Campus which are considered to be Public Open Space are re-provided within Heathrow’s preferred masterplan under the application for development consent.
5.8.39 British Telecom (BT) own a Data Centre and a motor transport depot at Harmondsworth which will need to be relocated in order to allow construction of the new runway. Both facilities can be relocated to a site removed from the local area. Heathrow have been supporting BT to develop a migration strategy with the favoured solution being to migrate the existing facility to the existing BT data centres at St Albans and Reigate. Further feasibility studies, which are currently in progress, are required before this plan can receive formal signoff from either party. Any planning consents required to facilitate the migration of the Data Centre would be via separate planning applications to be considered by the LPA, promoted by BT, and would not form part of Heathrow’s application for development consent. Therefore, for the same reasons set out above for the BA Waterside office, the relocation is not included in the Project-related non-DCO development assessment.

5.8.40 Aggregate Industries’ operation of a rail and road-served aggregates site is located to the south-west of the M25 and M4 junction. The southern half of the facility, the asphalt plant, would be demolished due to the DCO Project. A potential site for relocation of the facility has been identified within the Site. Alternatively, the facility may relocated elsewhere. Any planning consents required to facilitate the relocation of the facility would be via a separate planning application to be considered by the LPA, promoted by the operator, and would not form part of Heathrow’s application for development consent. Therefore, for the same reasons set out above for the BA Waterside office and BT Data Centre, the relocation is not included in the Project-related non-DCO development assessment.

5.8.41 If BA, BT or Aggregate Industries submit planning applications for their relocated sites within the CEA ZOIs, and if the proposed developments meet the inclusion criteria, the applications would be reviewed and included in the CEA in the ES, under Element 2.

5.8.42 The Lakeside Waste Management Facilities are located on Lakeside Road in Lakeside Industrial Estate, Colnbrook. The facility will be demolished as part of the DCO Project. Heathrow have been supporting Grundon Viridor Lakeside (GVL) to achieve their aspirations to relocate the facility to an alternative site in the vicinity. To date, GVL have undertaken a feasibility study to relocate the facility and are progressing a separate planning application. A potential site for relocating the Energy from Waste plant has been identified within the north west corner of the Site. The Materials Recovery Facility and Waste Transfer Station may be located on a separate local site. Any relocation of the facilities would be secured via a planning application promoted by GVL and would not form part of Heathrow’s application for development consent. The planning application for the Energy from Waste plant is expected to be validated in 2019, in which case it will be included in the CEA in the ES, under Element 2. Additionally, any other elements of the facility
located elsewhere would be included in the CEA in the ES once a planning application has been submitted (if the inclusion criteria are met).

**Stage 2: Information gathering**

**Environmental Statement**

**Basic information gathering**

5.8.43 Further detail will be gathered about the ‘other developments’ and Project-related non-DCO developments contained within the Development Schedule. Publicly available information will be gathered including planning application descriptions, grid references, distances from the DCO Project, planning statuses, proposed uses and red line boundary areas.

**Shortlisting of developments using basic information**

5.8.44 This information will be used to screen the Development Schedule. PINS Section 51 advice highlights that in the interest of proportionate assessment, it is appropriate for the ES baseline data accompanying the DCO Project application to focus on the likely significant effects of the development. A review of the developments will be undertaken, and judgements will be made as to which of the developments in the Development Schedule are most likely to be relevant in the assessment of likely significant cumulative effects. Those developments, where together with the DCO Project, there is potential for effects to be greater or different to the effects of the DCO Project in isolation, will be included for assessment. For each development, the judgement setting out why a development has or has not been shortlisted for assessment will be recorded. The shortlist will include:

1. All DCO applications, Hybrid Bills, TWA applications and developments meeting EIA Schedule 1 criteria

2. ‘Other developments’ where professional judgement dictates. The professional judgements made will have regard to the following factors:
   a. Size of development (including the consideration of multiple smaller and related developments occurring in close proximity)
   b. Distance of development from DCO Project boundary
   c. Type and nature of development (including potential for development to produce environmental effects, or form new future sensitive receptors)
   d. Duration of construction programme
   e. Potential effects of the development
f. Requirement for development to undertake an EIA

g. Whether the development has been identified during the EIA process as being of particular relevance to an aspect assessment.

Detailed information gathering for shortlisted developments

5.8.45 Once the shortlist has been produced, further information for the shortlisted developments will be gathered, including the identification of supporting planning and environmental documents, drawings and plans, and the identification of construction and operation timescales. This information will be gathered from publicly available sources, including the LPA websites and developer websites where relevant.

5.8.46 The construction and operational timescales assumed for each development will be recorded for the shortlisted developments in the Development Schedule. For residential and commercial developments, timescales will be projected based on actual trends in planning and construction.

5.8.47 Certain types of developments, for example residential, education and health care developments, have the potential to form future receptors that could be subject to the effects of the DCO Project. For example, if a new hospital was to be constructed in close proximity to Heathrow Airport, it could form a new sensitive receptor to noise, upon which the effects of the DCO Project would require identifying. Where relevant to an aspect assessment, future receptors will be identified in the future baseline of the aspect ES chapters. Potential effects on these receptors will then be identified within the aspect primary assessment for the assessment years within which the ‘other development’ is operational.

5.8.48 All developments, including those resulting in future receptors, have the potential to produce environmental effects during their construction and operation phases. For example, the construction phase of a hospital may result in habitat destruction, and the operation phase may result in emissions to air. The potential cumulative effects resulting from effects produced by both the ‘other development’ and the DCO Project, will be considered in the CEA where relevant.

PEIR

Basic information gathering

5.8.49 Basic details have been gathered about the ‘other developments’ contained within the Development Schedule including application descriptions, grid references, distances from the DCO Project, planning statuses, proposed uses and red line boundary areas. This has been obtained from publicly available information on the
LPA websites. These basic details for all developments in the core ZOI are detailed in Appendix 5.3.

**Shortlisting of developments using basic information**

5.8.50 The basic details gathered about the ‘other developments’ have been used to inform a shortlisting exercise to identify those developments that, at this stage, are considered most likely to, together with the DCO Project, result in potentially significant cumulative effects which are greater or different to the effects of the DCO Project on its own.

5.8.51 For the PEIR, only those developments that fall within the ZOI identified in the EIA Scoping Report (from this point onwards termed the ‘Scoping ZOI’), have been considered in the shortlisting exercise. It is considered that the majority of potentially significant cumulative effects will occur in closer proximity to the DCO Project, and effects are generally less certain with distance. The Scoping ZOI, which occupies a smaller area than the ZOIs identified in Stage 1a above, reflects this. Use of the Scoping ZOI has enabled the CEA at this PEIR stage to focus on developments most likely to result in potentially significant effects. The Scoping ZOI is shown on Figure 5.6. This is because a principle key aim of the CEA for the PEIR is to demonstrate the CEA approach and to facilitate responses from stakeholders on the approach. To do this in a proportionate manner, reflecting the stage in the EIA process, a shortlist derived over a smaller geographical area has been identified to demonstrate the CEA approach in full, through Stages 1-3.

5.8.52 The shortlisted developments are identified in Appendix 5.3. The shortlist has been selected through professional judgements made to identify developments with the potential to result in significant cumulative effects. The judgements followed the criteria and factors set out in paragraph 5.7.34 above. For each development in the Scoping ZOI, the judgement setting out why a development has or has not been shortlisted for assessment in the PEIR has been recorded in the Development Schedule.

**Detailed information gathering for shortlisted developments**

5.8.53 Detailed information about the shortlisted developments have been gathered, including supporting planning and environmental documents, drawings and plans. Assumptions about construction and operation timescales for shortlisted developments have been made and are recorded in Appendix 5.3. Developments that have the potential to form future receptors have also been identified in Appendix 5.3.
For the PEIR, an additional shortlisting exercise has been undertaken. In accordance with PINS Advice Note Seven, the role of Preliminary Environmental Information is to enable consultation bodies to develop an informed view of the likely significant environmental effects of a development and to inform their consultation responses. Therefore, in light of the stage in the design process and the complexity of the DCO Project, the CEA for the PEIR has been further refined. Only those ‘other developments’ that are the most likely to result in the conclusions of the primary assessments changing have been identified and taken forward for assessment in the CEA. This has focused the CEA to the most relevant issues, allowing these to be addressed at an earlier stage in the pre-application consultation process.

This approach also reflects the advice provided by PINS (Section 51 advice), which advocates proportionate assessment and encourages efforts to agree the approach of the CEA with the relevant consultation bodies. The approach undertaken for the PEIR therefore focuses on facilitating responses from the consultation bodies on both the approach proposed for the CEA for the ES and on the most pertinent cumulative effects issues arising from the most relevant ‘other developments’.

The further shortlisting exercise has focused on identifying ‘other development’ whose environmental effects are most likely to interact directly with those from the DCO Project, and where such cumulative effects have the potential to be significant. Therefore, the following developments have been included for assessment in the PEIR:

1. All DCO applications, Hybrid Bills, TWA applications and developments meeting EIA Schedule 1 criteria
2. Development meeting EIA Schedule 2 criteria where:
   a. if over 1km from the draft DCO limits, the development is significantly sized (e.g. the Southall Gasworks development), consented and requires an EIA, and only where there is potential for significant cumulative effects
   b. if within 1km of the draft DCO limits, or within the draft DCO limits itself, only key development that is most likely to change the level of significance reported in the aspect primary assessments (either through the potential for cumulative effects, or through the future baseline to be substantially different to the current baseline when the development is considered). The scale, type, construction timescales, requirement for an EIA and potential for environmental effects have all been considered in the decision about which developments to shortlist
c. non-DCO airport supporting development has the potential for significant cumulative effects or where the development may interface with the DCO Project.

5.8.57 The developments taken forward for assessment, i.e. the ‘assessment list’, are detailed in Table 5.2. There are 14 developments identified for assessment in the PEIR. Additionally, there are six developments (indicated by an * in Table 5.2) which may also be relevant to several aspect assessments and these have been included in the CEA where relevant.
Table 5.2: Assessment list for PEIR

<table>
<thead>
<tr>
<th>Ref*</th>
<th>Address / development name</th>
<th>Application number(s)</th>
<th>Applicant</th>
<th>Application description</th>
</tr>
</thead>
<tbody>
<tr>
<td>O109*</td>
<td>Land at Harmondsworth Holloway Close, Harmondsworth</td>
<td>73289/APP/2017/3976</td>
<td>Ingrebourne Valley Ltd</td>
<td>Phased mineral extraction, erection of a low profile processing and concrete plant, importation and treatment of reclamation material including ancillary activities, with restoration to agriculture</td>
</tr>
<tr>
<td>O591*</td>
<td>Rectory Lane, Cranford Lane, Heston West, Heston</td>
<td>P/2016/5112</td>
<td>Formal Investments Ltd</td>
<td>Hybrid planning application which comprises three main, interlinked elements. These elements are: mineral extraction, creation of a landscaped park and the creation of subterranean floorspace</td>
</tr>
<tr>
<td>O595*</td>
<td>Stanwell Recycling, Stanwell Quarry, Stanwell Moor Road</td>
<td>SP17/00113/SCC</td>
<td>Cemex UK Operations Ltd</td>
<td>Retention of an existing recycling operation on a site of some 5.3ha for the processing of construction and demolition waste for the production of restoration materials for use in the former Stanwell Quarry and recycled aggregates for export for a period of 10 years</td>
</tr>
<tr>
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<tr>
<td>O596*</td>
<td>Stanwell Recycling, Stanwell Quarry, Stanwell Moor Road</td>
<td>SP17/00118/SCC</td>
<td>Cemex UK Operations Ltd</td>
<td>Extends the period of restoration by an additional 10 years (to 2027) and puts in place a new restoration plan.</td>
</tr>
<tr>
<td>O601</td>
<td>Queen Mary Reservoir and Land West of Queen Mary Reservoir</td>
<td>01236/SCC; 01164/SCRVC</td>
<td>Brett Aggregates Limited</td>
<td>Using existing mineral extraction and processing infrastructure, remove part of the breakwater baffle at Queen Mary Reservoir, dredge the underlying sand and gravel and process material.</td>
</tr>
<tr>
<td>O608</td>
<td>Cemex Datchet Quarry, Land At Riding Court Farm, Riding Court Road Datchet Slough</td>
<td>13/01667/FULL; 15/02886/VAR; 18/00840/VAR</td>
<td>Cemex UK Operations Ltd</td>
<td>Extraction of sand and gravel at Riding Court Farm, erection of mineral processing and ready-mixed concrete plants and associated infrastructure, creation of new access onto Riding Court Road and restoration of the site by the importation of insert restoration material for a period of 12 years. Variations include changes to the export tonnage and infill traffic.</td>
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</table>
### Approach to the EIA

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<tr>
<th>Ref*</th>
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<tbody>
<tr>
<td>O609</td>
<td>Land East of Horton Road Horton Slough</td>
<td>17/03850/VAR</td>
<td>Jayflex Construction Ltd</td>
<td>Variation to increase the lifetime of the quarry by 2 years from 12 years (sometime in 2022) to 14 years (sometime in 2024-2025). Site already subject to mineral workings. Application allows for continued extraction, infilling and restoration. Site falls within DCO boundary and will be converted to biodiversity and public open space mitigation areas. Assume mineral extraction will continue until 2025, then permission will be extinguished. Site will then form part of the DCO project.</td>
</tr>
<tr>
<td>O615*</td>
<td>Southall Gas Works The Straight, Southall, UB1 1QX</td>
<td>PP/2016/0190; 160115REM; PP/2015/4682; 170819VAR (Ealing); 171562VAR 54814/APP/2017/604 (Hillingdon) Original application P/2008/3981-S</td>
<td>St James West London Ltd</td>
<td>PP/2016/0190 - Cinema, residential units, non-food retail &amp; A3-A5 uses, hotel, conference and banqueting building, multi-storey car park, health car facilities, educational facilities, office/studio units, sports pavilion, energy centre, open spaces and children</td>
</tr>
</tbody>
</table>
### Approach to the EIA

The quantum of development remains the same as the original scheme with the exception that the proposed development now includes a police facility and public toilets. In summary the proposed amendments to the scheme are: (1) redistribution of public realm; (2) re-configuration of the internal street network; (3) re-positioning of the Civic Square; (4) re-locating the primary school; (5) improvements to the canal side; (6) re-configuration of buildings around the retained land; (7) alignment of western entrance on the gasworks site; (8) provision of a commercial access.

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<tr>
<td>O732</td>
<td>Queen Mary Reservoir and Land West of Queen Mary Reservoir</td>
<td>SP/2012/01132; SP13/01003/SCC; 13/01238/SCC; 13/01239/SCC;</td>
<td>Brett Aggregates Limited</td>
<td>play area and any required infrastructure. 160115REM &amp; PP/2015/4682 concerns new roads and bridges (infrastructure to support the PP/2016/0190 application. 171562VAR - The quantum of development remains the same as the original scheme with the exception that the proposed development now includes a police facility and public toilets. In summary the proposed amendments to the scheme are: (1) redistribution of public realm; (2) re-configuration of the internal street network; (3) re-positioning of the Civic Square; (4) re-locating the primary school; (5) improvements to the canal side; (6) re-configuration of buildings around the retained land; (7) alignment of western entrance on the gasworks site; (8) provision of a commercial access.</td>
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<td></td>
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<td>SP16/01196/SCRV;</td>
<td></td>
<td>sand and gravel, creation of a nature conservation area, construction of a conveyor to reach existing processing plant at Queen Mary Quarry, concrete batching plant, tunnel under Ashford Road. SP13/01003/SCC - Proposed different layout for the conveyor to transport minerals extracted to Queen Mary Quarry. Various applications to extend operations submitted in 2015 and 2016.</td>
</tr>
<tr>
<td>O745</td>
<td>Land at Milton Park Farm, Stroude Road, Egham, Surrey</td>
<td>SP16/01195/SCRV;</td>
<td>Hanson Quarry Products Europe Ltd</td>
<td>The extraction of approximately 2.4 million tonnes of sand and gravel from an area of around 57 hectares. The erection of a modern processing plant and associated ancillary infrastructure. The construction of a new entrance and roundabout. Restoration of the site through importation of residual inert materials which would enable progressive restoration of</td>
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<tr>
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<tr>
<td>O750</td>
<td>Land at Watersplash Farm, Gaston Bridge Road and Fordbridge Road</td>
<td>SP12/01487</td>
<td>Cemex UK Operations Ltd</td>
<td>Excavation and processing of 1,269,850 tonnes of sand and gravel, its resultant sale off site and the reinstatement of the land involving the use of indigenous materials and 680,000 cubic metres of imported inert recovery materials.</td>
</tr>
<tr>
<td>O751</td>
<td>Slough Heat &amp; Power Station, Edinburgh Avenue, Slough, SL1 4TU</td>
<td>P/00987/024</td>
<td>SSE Generation Ltd</td>
<td>Demolition of redundant plant and buildings and development of a multifuel combined heat and power (CHP) generating station of up to 50 megawatts</td>
</tr>
<tr>
<td>O810</td>
<td>M4 Junctions 3 to 12 Smart Motorway</td>
<td>PINS Ref No. TR010019</td>
<td>Highways Agency</td>
<td>Works to hard shoulder, new lane, replacement of overbridge structures, extension of underbridges and other structures, changes to junctions and slip roads, provision of new gantries and signs, other infrastructure needed for the improved motorway</td>
</tr>
<tr>
<td>Ref*</td>
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<tr>
<td>O812</td>
<td>Western Rail Link to Heathrow</td>
<td>PINS Ref No. TR040009</td>
<td>Network Rail Infrastructure Limited</td>
<td>Creation of a new rail connection with the nearby Great Western Main Line (GWML), providing a more direct rail route for passengers travelling to Heathrow from Reading, Oxford, South Wales, Bristol, Birmingham and beyond. An additional rail connection to the west will also provide more efficient commuting opportunities for those from the Thames Valley region who work at Heathrow Airport.</td>
</tr>
<tr>
<td>O813</td>
<td>Southampton to London Pipeline Project</td>
<td>PINS Ref No. EN070005</td>
<td>Esso Petroleum Company Limited</td>
<td>Replacement of 90km of Esso Petroleum Company Limited's 105km aviation fuel pipeline that runs from Fawley Refinery near Southampton to Esso's West London Terminal Storage Facility in Hounslow.</td>
</tr>
<tr>
<td>Ref*</td>
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<tr>
<td>A2</td>
<td>Heathrow Airport</td>
<td>Application submission pending</td>
<td>Heathrow Airport Ltd</td>
<td>T5+ (T5A): Reconfiguration of the T5A processor building within the existing envelope. Reconfiguration of stands on east façade. Part of T5+ capacity programme to deliver an additional 7 million passengers per annum (mppa) of capacity (currently 33mppa) and increase potential passenger throughput. It does not, in isolation, drive significant growth due to the constraints of the ATM cap - additional ATMs will be within the existing 480,000 ATM cap at Heathrow Airport.</td>
</tr>
<tr>
<td>A3</td>
<td>Heathrow Airport</td>
<td>47853/APP/2003/472</td>
<td>Heathrow Airport Ltd</td>
<td>T5+ (T5B): Extend departures level above existing baggage facility to enable conversion of two remote stands to contact stands. Part of T5+ capacity programme to deliver an additional 7mppa (currently 33mppa) and increase passenger throughput. Additional ATMs will be within the existing 480,000 ATM cap at Heathrow Airport.</td>
</tr>
<tr>
<td>Ref*</td>
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<td>ATM cap at Heathrow Airport.</td>
</tr>
<tr>
<td>A4</td>
<td>Heathrow Airport</td>
<td>Application submission pending</td>
<td>Heathrow Airport Ltd</td>
<td>T5+ (T5C): North and south extensions at departures level above existing baggage halls to enable conversion of four remote stands to contact stands. Part of T5+ capacity programme to deliver an additional 7mppa (currently 33mppa) and increase passenger throughput. Additional ATMs will be within the existing 480,000 ATM cap at Heathrow Airport.</td>
</tr>
<tr>
<td>A5*</td>
<td>Heathrow Airport</td>
<td>9456/APP/2019/403</td>
<td>Heathrow Airport Ltd</td>
<td>Perry Oaks Fuel Farm: Four additional fuel storage tanks in the centre of the airfield (on existing Stand 596 which would require the utilisation of Stand 595 during construction and an additional stand could be constructed between Stands 573 and 574).</td>
</tr>
</tbody>
</table>

*Developments included in the future baseline and not assessed as part of the CEA for reference*
### Kilobox Apron Development:

Construction of passenger and baggage tunnels and delivery of additional stands on Terminals 2 (T2) and 2B (T2B). The development increases stand capacity by delivering stand infrastructure to the north east of Terminal 1 (T1) (Stands 209-213) and building out the two remaining stands directly adjoining T2B (Stands 234 and 235) to improve service levels and optimise the potential capacity of the central campus.

### Runway Access Taxiway:

Taxiway improvements to facilitate full easterly alternation of air movements. Involves improving existing taxiway concrete structure, drainage and lighting and creating several access roads to enable better traversing of the Heathrow site.

*Optional developments which are included in aspect CEAs where relevant.*
For the PEIR, the Runway Access Taxiway and Kilobox Apron Development projects at Heathrow Airport have been included in the future baseline (see the on-airport development bullet in paragraph 5.4.14). It has not been possible to include ‘other development’ forming potential future receptors in the future baseline of the primary aspect assessments. The potential for ‘other development’ and other airport-related non-DCO development on the assessment list to: change the baseline and the significance of effect of the DCO Project; to form new future receptors that could be subject to effects of the DCO Project; or to produce effects that could cumulate with the effects of the DCO Project, are described in the CEA section of each aspect chapter.

Although the full list of developments within the core and larger aspect ZOIs have not been taken forward for assessment, the list has been presented in the PEIR to provide the opportunity for stakeholders to comment.

**Stage 3: Assessment**

In relation to each environmental aspect, professional judgement will be used to identify which Project-related non-DCO developments and ‘other developments’ have the potential to result in likely significant cumulative effects with the DCO Project which may be greater than or different to the effects of the DCO Project on its own. Professional judgements made will be justified and evidenced in the ES. Those that are not likely to result in likely significant cumulative effects will be scoped out.

In undertaking the CEA, the same significance criteria will be used in relation to each aspect as will be used for their primary assessment, considering whether the cumulative effects would have a higher level of significance than that identified in primary assessments. Potential effects upon future receptors, where relevant, will also be assessed using the same significance criteria used in the aspect primary assessments.

Where significant negative cumulative effects which are greater than, or different to the effects of the DCO Project on its own, are identified, environmental measures will be identified, where possible, to reduce the level of effect. Detail will be provided on how the measures would be secured and delivered.

Developments on the assessment list have been reviewed in relation to each environmental aspect. Where a development has the potential to result in likely significant cumulative effects with the DCO Project, which are greater than or
different to the effects of the DCO Project on its own, it has been taken forward and assessed, following the approach set out above for the ES.

5.8.64 Although environmental measures have been considered in the primary aspect assessments, and thus effects carried through to the CEA already inherently consider environmental measures, measures to deal specifically with any cumulative effects have not been presented in the PEIR. This is because where potentially significant cumulative effects have been identified, discussions with third parties about potential environmental measures have not yet taken place.

5.8.65 The CEA is reported within each of the aspect chapters (Chapters 7 to 21).

5.9 Assessment of in-combination effects

5.9.1 In-combination effects (sometimes referred to as interactive effects) are caused by the interactions of different types of effect from project activities. An example of an in-combination effect is increased noise and reduced air quality, resulting in two types of effects on human receptors. The EIA has regard for the potential for in-combination effects to occur on environmental receptors. The methodology for the assessment of in-combination effects is presented in Chapter 22: In-combination effects.

5.10 Assessment of transboundary effects

Overview

5.10.1 The United Nations Economic Commission for Europe (UNECE) Convention on Environmental Impact Assessment in a Transboundary Context, which was adopted in 1991 as the ‘Espoo Convention’, was negotiated to enhance the cooperation between European Economic Area (EEA) States in assessing environmental impacts in a transboundary context. The Espoo Convention has been implemented by the EIA Directive and transposed into UK law for NSIPs by way of the EIA Regulations, specifically under Regulation 32.

5.10.2 Regulation 32 requires that where the Secretary of State is of the view that an EIA development that is likely to have significant effects on the environment of another EEA State, or another EEA State likely to be significantly affected by such development so requests, a notification must be made by the Secretary of State to that other EEA State.

5.10.3 As set out in PINS Advice Note Twelve (Planning Inspectorate 2018b), the role of the Secretary of State, where an NSIP has been identified as an EIA development, includes the screening for likely significant effects on the environment of another EEA State. Screening may take place at any time when new relevant information
becomes available. Where a likely significant effect on the environment of any other EEA State(s) is identified, the role of PINS includes the identification of EEA State(s) to be notified, notification of these states, consultation with EEA States, and notification to the EEA State(s) of the outcome of the application for development consent.

5.10.4 There is no formal role for the applicant under the Regulation 32 process, and there is no statutory requirement for an applicant to include consultation with governmental divisions and interest groups within other EEA States as part of their application under the PA 2008. However, PINS Advice Note Twelve makes clear that the decision as to whether or not a development will have a transboundary effect will be based upon the information provided by the applicant, and states that information about the potential for transboundary effects should be provided as part of scoping.

5.10.5 The scoping exercise undertaken for the DCO Project identified two environmental aspects in relation to which a transboundary effect on other EEA States could conceivably arise as a result of the DCO Project: carbon (specifically greenhouse gas emissions (GHG)) and biodiversity. The Scoping Report concluded that the DCO Project is not likely to have significant effects on another European Economic Area (EEA) State from GHG emissions and that it is very unlikely to have a significant biodiversity effect on the environment of any EEA State(s). Heathrow proposed that transboundary effects from GHG emissions would not need to be considered within the ES, as the environmental receptor in this regard is the global atmosphere, rather than the environment of any country or state or group of countries or states, but that further consideration would be given to transboundary effects from impacts on biodiversity. PINS noted the conclusion regarding transboundary effects and recommended that further details be provided to justify the conclusions reached.

5.10.6 Heathrow’s approach to the assessment of potentially significant transboundary effects on biodiversity has jointly focused on the requirements of the EIA and HRA processes. The processes for EIA and HRA are inter-related but represent two distinct environmental assessments. As part of the screening process for the HRA, transboundary effects have been considered further. A summary is provided here of the potential pathway of effect for the DCO Project that could lead to transboundary effects. This is:

1. Loss of condition of wintering gadwall and shoveler (wintering in the Southwest London Waterbodies SPA) due to the construction or operation of the DCO Project resulting in reduced productivity on another European site designated for breeding populations of these species
2. Degradation of habitats within European sites, due to nitrogen deposition, in the vicinity of airports linked to Heathrow by flight routes.

5.10.7 The first of these potential pathways can be discounted because neither gadwall nor shoveler are designated breeding features of any European site located in an area that supports birds that regularly winter in southern Britain. For gadwall this equates to northern Germany, southern Sweden and Poland, whilst for shoveler this covers the Baltic States, Sweden and Finland.

5.10.8 Degradation of habitats within European sites close to airports linked by flight routes to Heathrow can also be discounted. This is because the consents required to construct and operate airports are provided by each European member state. Integral to each of the consenting processes is assessing the potential effects associated with the number of landing / departure slots available. Therefore, emissions associated with planes linked to Heathrow have already been accounted for within each member state.

5.10.9 In August 2018 PINS, on behalf of the Secretary of State, undertook their own screening of transboundary effects which concluded that on the basis of current information available, the Inspectorate was of the view that the DCO Project is not likely to have a significant effect on the environment in another EEA State, and confirmed that in reaching this view the Inspectorate had applied the precautionary approach (as explained in its Advice Note Twelve: Transboundary Impacts), and taken into account the information supplied in the Scoping Report.

5.10.10 No further consideration of transboundary effects has therefore been undertaken for the PEIR.