

2. EIA Methodology

Introduction

- 2.1 This Chapter sets out the methodology used for undertaking the EIA and, in particular, details the process of identifying the environmental issues to be addressed in the EIA and the method of assessing the significance of impacts.

General Approach

- 2.2 This ES was prepared to comply with the EIA Regulations and Council Directive No. 85/337/EEC as amended by Council Directive No. 97/11/EC. Reference is also made to currently available good practice guidance in EIA including:
- Environmental Impact Assessment - A Guide to Procedures, Department of the Environment, Transport and Regions (DETR, 2000);
 - Preparation of Environmental Statement for Planning Projects that require Environmental Assessment - A Good Practice Guide (Department of the Environment (DoE), (1995);
 - DETR Circular 02/99 - Environmental Impact Assessment; and
 - Impact Assessment Guidelines and ES Review Criteria from the Institute of Environmental Management and Assessment (IEMA).
- 2.3 The assessment of likely significant environmental impacts was based on current knowledge of the Site and the surrounding environment. Both positive and negative impacts were assessed during the construction and operational phase of the Development. In line with the legislative and best practice requirements, direct, indirect, secondary and cumulative short, medium and long-term, permanent and temporary, impacts were addressed, where applicable. Following the findings of various studies contributing to the EIA, methods of avoiding, reducing or off-setting any potentially significant adverse impacts (collectively known as 'mitigation measures') were identified; these are outlined in each technical chapter.

Scoping the EIA

- 2.4 'Scoping' is a fundamental component of the EIA process, and involves focusing the study (and hence the ES) on those issues of greatest potential significance. It is also important in identifying all of the potential impacts of the development through design, construction and once it is completed, to ensure that appropriate mitigation options are considered.
- 2.5 The EIA Regulations provide for potential applicants to ask the relevant local planning authority to state in writing the information that ought to be provided in an ES, i.e. a 'Scoping Opinion'.
- 2.6 The applicant recognised the value of the scoping approach and commissioned Waterman to undertake an EIA Scoping Study. The purpose of the EIA Scoping Study was to ensure that, where practicable, all relevant environmental issues in respect of the Development were identified from the outset and to confirm that the assessment process would conform to the requirements of the EIA Regulations.
- 2.7 The key issues to be addressed by the EIA were identified through consideration of available baseline information, particularly information contained in the Environmental Statement (Roger Evans Associates Ltd, September 2007) pertaining to the entire Airbase, together with professional judgement.

- 2.8 The findings of this exercise were presented in a report and submitted to CDC on 19 May 2010 to provide them and the statutory consultees the opportunity to comment on the content and methodology to be used for the EIA. A copy of the Scoping Study Report is provided in **Appendix 2.1**.
- 2.9 Following receipt of the EIA Scoping Study Report, CDC consulted with a number of statutory and non-statutory consultees before providing their Scoping Opinion. A copy of CDC's Scoping Opinion document dated 23 June 2010 is provided in **Appendix 2.2**.
- 2.10 The scoping process showed that the Development would be likely to raise a number of issues that need to be assessed. These issues were categorised within key themes as listed below, and are presented in this order within the ES:
- transportation;
 - noise;
 - air quality;
 - ground conditions and contamination;
 - water resources;
 - landscape and visual character;
 - archaeology and cultural heritage;
 - ecology;
 - socio-economics; and
 - cumulative impacts.

EIA Consultation

- 2.11 Consultation was carried out throughout the EIA process. The following statutory and non-statutory organisations were consulted with regard to the likely environmental implications of the Development:
- CDC;
 - Oxfordshire County Council;
 - Highways Agency;
 - Environment Agency;
 - Natural England;
 - Berks, Bucks and Oxon Wildlife Trust;
 - English Heritage;
 - Thames Water; and
 - British Waterways.
- 2.12 Copies of consultation responses received directly by the EIA consultant team can be found in **Appendix 2.3**.
- 2.13 All relevant comments from the consultees relating to the EIA, whether made directly to the EIA consultant team or through the Scoping Opinion, are addressed in the relevant technical chapters (**Chapters 5 to 14**). A summary of the comments, together with a reference to the location within the ES or other documents where the comments are addressed, is presented in **Table 2.1**.

Table 2.1: Issues Raised During the Consultation Process

Consultee	Issue Raised	Chapter / Document Where Addressed
CDC Ecologist	Agreement of approach and methodology of bat survey.	Chapter 12: Ecology
CDC Urban Design and Conservation Team Leader	Agreement of landscape and visual character assessment methodology and viewpoint locations. Advice on Tree Survey. Impact of the Development on historic spaces and routes (e.g. Trident road layout and Parade Ground).	Chapter 10: Landscape and Visual Character Chapter 11: Archaeology and Cultural Heritage
CDC Landscape Architect	Visual impact of the Development on the surrounding Cold War landscape and buildings adjoining the Site boundary. Impact to the historical setting of the park, setting of the Scheduled Monuments and the Quick Reaction Alert Area. Cumulative visual impact from Flying Field security fencing.	Chapter 10: Landscape and Visual Character Chapter 11: Archaeology and Cultural Heritage
CDC Rural Development & Countryside Manager	Impact of the Development on existing rights of way.	Chapter 10: Landscape and Visual Character
Oxfordshire County Council, County Ecologist	Landscape assessment should be carried out in the context of the Oxfordshire Wildlife and Landscape Study. Development could contribute to the targets of the Upper Cherwell Conservation Target Area. A landscape and ecological Head of Terms Management Plan should be prepared and submitted. Habitat and species surveys should be carried out. Mitigation Strategy should be prepared and submitted, if protected species identified.	Chapter 10: Landscape and Visual Character Chapter 12: Ecology
Oxfordshire County Council, County Archaeologist	Agreement with the scope and methodology of the Archaeology and Cultural Heritage assessment.	Chapter 11: Archaeology and Cultural Heritage
Oxfordshire County Council, Highways	Update Transport Assessment and Travel Plans. Address the requirements of the Flood Management Bill (Flood and Water Management Act 2010).	Chapter 5: Transportation Chapter 9: Water Resources
Natural England	Dust impacts on nearby SSSIs. Impact on Local Wildlife Sites, and where necessary provide mitigation. Protected species and habitat surveys should be carried out. Potential impacts on landscape character and visual amenity, together with any physical effects. Agreement of landscape and visual character assessment methodology.	Chapter 7: Air Quality Chapter 12: Ecology Chapter 10: Landscape and Visual Character
Berks, Bucks and Oxon Wildlife Trust	Agree with guidance to be used for ecological assessment. Consideration should be given to impacts on habitats and species of principal importance listed under Section 41 of the NERC Act 2006.	Chapter 12: Ecology

Consultee	Issue Raised	Chapter / Document Where Addressed
	Identify opportunities to enhance biodiversity.	
Environment Agency	<p>Flood Risk Assessment should be carried out in accordance with PPS25. Agreement that assessment should focus on the management of surface water flood risk. Development should attenuate surface water attenuation rates to better Brownfield rates. Agreement of principles of the surface water drainage strategy.</p> <p>Water quality impacts.</p> <p>Consideration should be given to the capacity of the Sewage Treatment Works and the impact of waste water on water quality.</p> <p>The potential migration of ground contamination from the Flying Field area should be considered, together with impact on the groundwater contained in the underlying Principal Aquifer. Management of any water present in the oil pipeline.</p>	<p>Chapter 9: Water Resources</p> <p>Chapter 8: Ground Conditions and Contamination</p>
British Waterways	Consideration should be given to opportunities of sustainable travel along the Oxford Canal.	Chapter 5: Transportation
Thames Water Utilities	Agreement with the proposed methodology. Consideration should be given to the net increase in water and waste water and the impact on the network offsite.	Chapter 9: Water Resources

Cumulative Impacts

- 2.14 Cumulative impacts are impacts that result from incremental changes caused by other past, present or reasonably foreseeable activities or projects in the local area, in combination with the Development. Cumulative impacts can be split into two categories:
- impact interactions, which are the combined impacts of individual impacts, for example noise and vibration, dust and visual impacts, from the Development on a particular receptor; and
 - cumulative impacts, which are impacts from several developments, which individually may be insignificant, but when considered together could result in a significant cumulative impact.
- 2.15 CDC was consulted to establish whether there are any committed developments within the area which have the potential to give rise to significant cumulative impacts in combination with the Development. The agreed committed developments that were taken into account are:
- Flying Field, former RAF Upper Heyford Airbase, Upper Heyford, located immediately to the north of the Site, for which consent was granted in January 2010 for the change of use of existing buildings;
 - land north of Willowbank Farm, Fritwell Road, Fewcott, located approximately 2.7km north-east of the Site, for which consent was given for the development of four wind turbines; and
 - Ardley Landfill Site, Station Road, Ardley, near Bicester, located approximately 2km east of the Site, for which an Energy to Waste facility and associated infrastructure is proposed.
- 2.16 The extent to which cumulative impacts can be quantified is dependent on the information available for each of the schemes. **Chapter 14** contains an assessment of the cumulative impacts of the proposed schemes detailed above. Where there are no cumulative impacts predicted, this is also stated.

Means of Assessment

- 2.17 The content and extent of coverage of the ES is based on the following:
- review of the current situation through existing information, data and reports;
 - desk-top studies;
 - site surveys;
 - consideration of relevant planning policies (national and local);
 - identification of likely environmental impacts and an evaluation of their likely duration, magnitude and significance;
 - consideration of potential sensitive receptors;
 - expert opinion;
 - use of technical guidance and best practice; and
 - specific consultations with appropriate organisations.

Evaluation of Significance

- 2.18 The EIA Regulations stipulate that an ES should describe and assess the likely significant impacts of the Development on the environment, including a consideration of:
- positive and negative impacts;
 - short, medium and long term impacts;
 - direct and indirect impacts;
 - permanent and temporary impacts; and
 - cumulative impacts and impact interactions.
- 2.19 Environmental impacts were assessed with reference to legislation and published standards where available. Where it was not possible to quantify impacts, qualitative assessments were carried out, based on available knowledge and professional judgement. Where any uncertainty exists, this is noted in the relevant technical chapter.
- 2.20 The significance of potential impacts was determined by reference to impact criteria for each assessment topic. Specific criteria for each issue were developed, giving due regard to some or all of the following:
- extent and magnitude of the impact;
 - impact duration (whether short, medium or long term);
 - impact nature (whether direct or indirect, reversible or irreversible);
 - likelihood of the impact occurring;
 - whether the impact occurs in isolation, is cumulative or interactive;
 - performance against environmental quality standards or other relevant pollution control thresholds;
 - sensitivity of the receptor; and
 - compatibility with environmental policies.
- 2.21 In order to provide a consistent approach to expressing the outcomes of the various assessments undertaken as part of the EIA, and thereby to enable comparison between

impacts upon different environmental components, the following terminology is used throughout the ES. Impacts are expressed as either:

- **adverse** – detrimental or negative impacts to an environmental resource or receptor; or
- **beneficial** – advantageous or positive impacts to an environmental resource or receptor.

2.22 Where adverse or beneficial impacts were identified these were assessed against the following scale, unless stated otherwise:

- **insignificant** - no significant impact (either adverse or beneficial) to an environmental resource or receptor;
- **minor significance** - slight, very short or highly localised impact of low significance;
- **moderate significance** - noticeable impact (by extent, duration or magnitude) which may be considered significant; and
- **substantial significance** - considerable impact (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

2.23 Each of the technical chapters outlines the criteria, including sources and justifications, for quantifying the different levels of impact. Where possible, this is based upon quantitative and accepted criteria. Where quantitative criteria were not available value judgements and expert interpretations were used to establish to what extent a predicted impact would be environmentally significant.

Structure of Technical Chapters

2.24 The EIA process was designed to identify the likely significant environmental impacts of the Development. Each key environmental issue is assigned a separate chapter in the ES (**Chapters 5 to 14**) and within each of these chapters the assessment is structured as follows:

Introduction

2.25 The introduction provides a brief summary of the chapter's content.

Legislation and Planning Policy Context

2.26 This section presents the key legislation and national, regional and local planning policy of relevance to the impact assessment.

Assessment Methodology

2.27 The methods used in undertaking the technical studies are outlined in this section with references to published standards, guidelines, best practice and relevant significance criteria. Legislation is also identified, where applicable, as well as any assumptions made for the assessment or limitations to the assessment methodology.

Baseline Conditions

2.28 In order to assess the impact of the Development, it is necessary to determine the environmental conditions that exist on, and near the Site, in the absence of the Development. These are known as baseline conditions.

Potential Impacts

- 2.29 This section identifies the likely significant impacts resulting from the Development as it is proposed in the application and assesses impacts during construction, and once the Development is completed and fully occupied.

Mitigation Measures and Residual Impacts

- 2.30 Where significant adverse environmental impacts are identified, mitigation measures are given. The residual impacts, assuming the specified mitigation measures are implemented, are then stated to demonstrate the effectiveness of the mitigation measures proposed.

Conclusion

- 2.31 A summary of the potential impacts, mitigation measures and residual impacts for both the construction related activities and the completed Development are provided at the end of each chapter.

Assumptions and Limitations

- 2.32 The principal assumptions, and any limitations that have been identified, in undertaking the EIA are set out below:
- information received from third parties is accurate, complete and up to date;
 - the design, construction and completed scheme would satisfy minimum environmental standards, consistent with legislation, best practice and knowledge at the time of development;
 - planning for demolition and construction is necessarily broad at this stage and may be subject to modification during Site development. Consequently, the environmental issues associated with some aspects of construction cannot be accurately predicted or assessed.
- 2.33 Assumptions specifically relevant to each environmental topic are described where applicable in each chapter.
- 2.34 Wherever possible, the assessments were quantitative. Where quantitative assessment was not possible, qualitative assessment was undertaken objectively using professional judgement. Where there were uncertainties, or where assumptions were made in the assessment process, these are clearly stated.

Avoidance of Bias

- 2.35 This ES reports the findings of an objective and independent assessment of environmental impacts. Objective identification of likely impacts was aided through consultation with a number of statutory and non-statutory bodies, and through the process of requesting a Scoping Opinion from CDC by means of submitting a Scoping Study Report. This participatory process also ensured that the methodologies proposed for assessing each impact were agreed by consultees in advance of undertaking the assessment, including CDC.