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5. EIA METHODOLOGY

5.1 Introduction

5.1.1 Environmental Impact Assessment (EIA) is a process that considers how a proposed development will change existing environmental conditions and what the consequences of such changes will be. It therefore informs both the project design and planning decision making processes.

5.1.2 This Chapter sets out the approach that has been taken to complete the EIA of the Proposed Development, including reference to legal requirements, best practice and the assessment of parameters.

5.1.3 An overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Report (Chapters 6-11).

5.2 EIA Quality

5.2.1 In accordance with regulation 5(5) of 2017 EIA Regulations, by appointing ASH design+assessment Ltd. (ASH) to coordinate the EIA Report for the Proposed Development the Applicant has ensured that the EIA Report has been prepared by 'competent experts'. The EIA Report has been compiled and approved by professional EIA practitioners at ASH, holding relevant undergraduate and post-graduate degrees, and membership of the Institute of Environmental Management and Assessment (IEMA). The EIA Report meets the requirements of IEMA's EIA Quality Mark scheme. This is a voluntary scheme operated by IEMA that allows organisations to make a commitment to excellence in EIA and to have this commitment independently reviewed on an annual basis. In addition, the Applicant confirms that each of the impact assessment chapters has been prepared by a competent expert, with the chapter providing details of the relevant experience and professional memberships of the authors and any applicable code of practice followed. The following provides a summary of specialist consultants appointed by the Applicant for this EIA Report:

- EIA Co-ordination – ASH;
- Landscape and Visual Amenity – ASH;
- Ecology and Ornithology – Blairbeg Consulting;
- Cultural Heritage – Independent archaeologist;
- Hydrology, Hydrogeology and Geology – SLR Consulting; and
- Forestry – McKay Forestry.

5.3 Identification of Baseline

5.3.1 To identify the scale of likely significant effects as a result of the Proposed Development, it is necessary to establish the existing baseline environmental conditions.

5.3.2 The baseline scenario was established through the following methods, where relevant:

- site visits and surveys;
- desk-based studies;
- review of existing information;
- modelling;
- review of relevant national and local planning policies;
- consultation with the relevant statutory consultees; and
- identification of sensitive receptors.

5.3.3 The Technical Chapter methodology is summarised in the flow diagram in **Plate 5.1**.

5.4 EIA Regulations

5.4.1 This EIA Report is prepared in accordance with the EIA Regulations, and contains the information specified in Schedule 4 of the EIA Regulations.

5.4.2 The approach to the assessment has been informed by current best practice guidance, including the following:

- Scottish Government Good Practice Guidance[1];
- Scottish Government Planning Advice Note (PAN) 1/2013 (revision 1.0)[2]; and
- Planning Circular 1/2017[3].

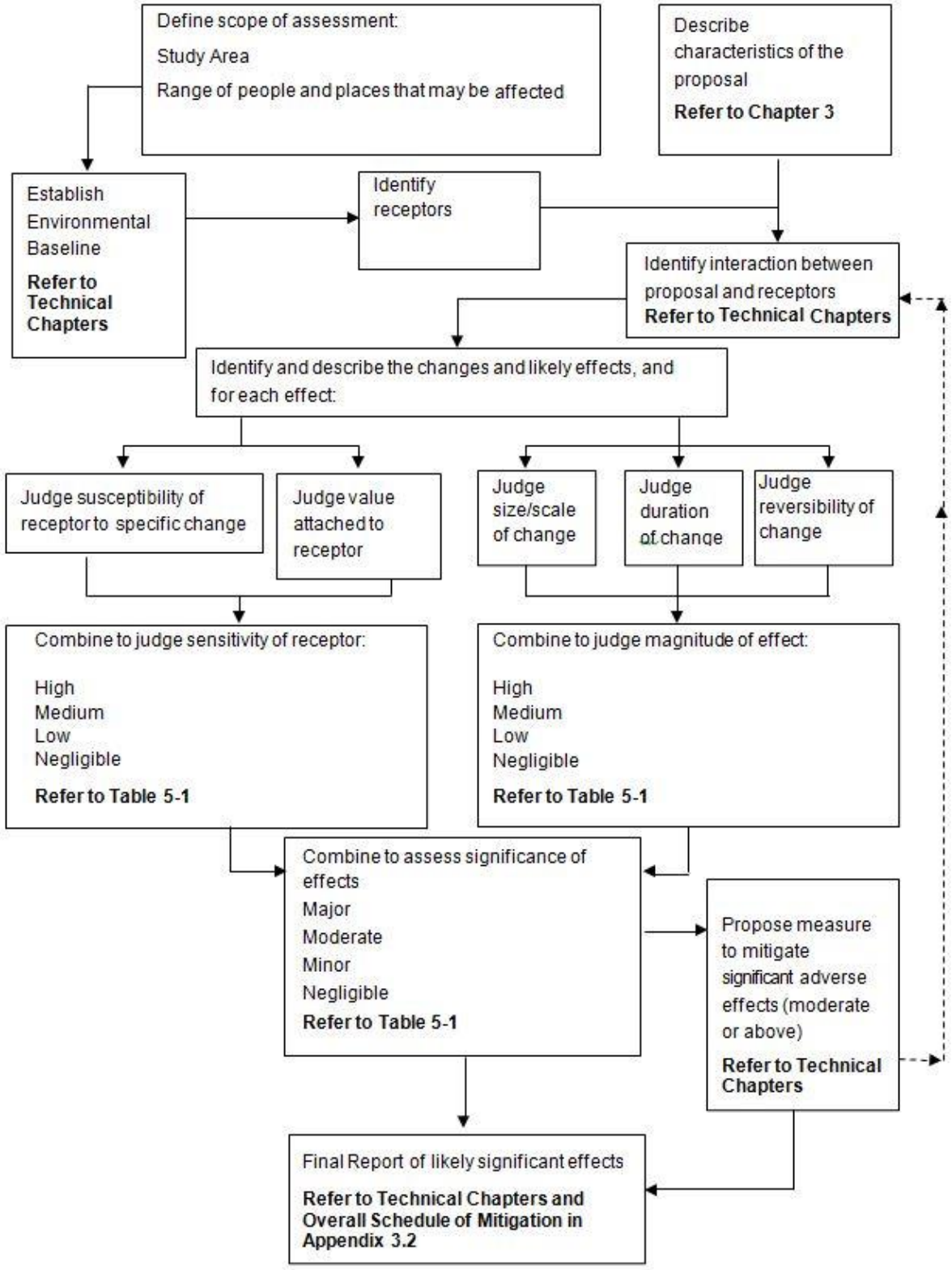
5.4.3 An overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Report (Chapters 6-11).

[1] Scottish Government Energy Consents and Deployment Unit (2013) Good Practice Guidance

[2] Scottish Government (2013, revised 2017) Planning Advice Note 1/2013 (revision 1.0): Environmental Impact Assessment.

[3] Scottish Government (2017) Planning Circular 1/2017: Environmental Impact Assessment Regulations 2017.

Plate 5.1: Summary of Methodology for Environmental Effects



5.5 Assessment of Likely Significant Environmental Effects

5.5.1 For the purposes of this EIA Report the terms used in the assessment of effects are generally defined as follows:

- Temporary - where the effect occurs for a limited period of time and the change at a defined receptor can be reversed;
- Permanent - where the effect represents a long-lasting change at a defined receptor;
- Direct - where the effect is a direct result (or primary effect) of the Proposed Development;
- Indirect - a knock-on effect which occurs within or between environmental components, may include effects on the environment which are not a direct result of the Proposed Development, often occurring away from the proposals or as a result of a complex biological or chemical pathway;
- Secondary – an induced effect arising from the actions or presence of a project, such as changes to the pattern of future land use or improvements to local road networks;
- Cumulative - these effects may arise when more than one development of a similar scale and nature combine to create a potentially greater impact than would result from the Proposed Development alone (see also Section 5.7 below);
- Transboundary – where a project implemented in Scotland is likely to have significant effects on the environment of a European Economic Area (EEA) State other than the United Kingdom;
- Beneficial – a positive effect to one or more environmental receptors; and
- Adverse – a detrimental, or negative, effect on one or more environmental receptors.

5.5.2 Where a more appropriate effect duration scale or definition of the above terms is applicable to a technical discipline this is clearly outlined with the technical chapters (Chapters 6-11).

5.5.3 The result of the assessment is the determination of whether the likely effect of the Proposed Development on the receptor in the study area would be significant or not significant, and adverse or beneficial.

5.5.4 Several criteria have been used to determine whether or not the likely environmental effects of the Proposed Development will be deemed 'significant'. The effects have been assessed quantitatively where possible. Generally, the significance of effects has been assessed using one or more of the following criteria:

- international, national and local standards;
- sensitivity of receiving environment;
- extent and magnitude of the effect; and
- reversibility and duration of the effect.

5.5.5 Where no published standards exist, the assessments presented in the technical chapters describe the professional judgements (assumptions and value systems) that underpin the attribution of significance. For certain technical topics, such as ecology, widely recognised published significance criteria and associated terminology have been applied and these are presented in the technical chapters and associated appendices where relevant.

5.5.6 The assessment of significance has considered the magnitude of change (from the baseline conditions), the sensitivity of the affected environment / receptors and (in terms of determining residual effects) the extent to which mitigation and enhancement will reduce or reverse adverse effects. In addition, further influences such as those listed below have been factored into the assessment using professional judgement:

- likelihood of occurrence;
- geographical extent;
- the value of the affected resource;
- adherence of the Proposed Development to legislation and planning policy; and
- reversibility and duration of the effect.

5.5.7 The magnitude (scale) of change for each effect has been identified and predicted as a deviation from the established baseline conditions, for the construction and operational phases of the Proposed Development. The scale generally used high, medium, low, and negligible criteria, as outlined in **Table 5-1** below; each of the technical chapters (6-11) defines the scale used for its methodology, where it differs from below.

5.5.8 The sensitivity of the receptor / receiving environment to change has been determined using professional judgement, consideration of existing designations (such as Sites of Special Scientific Interest (SSSIs)) and quantifiable data, where possible. The scale generally used high, medium, low, and negligible criteria, as outlined in **Table 5-1** below. As above, methodologies are defined within each of the technical chapters (6-11) where they differ from this approach.

5.5.9 Each effect has been assessed taking account of the predicted magnitude of change and the sensitivity of the receptor as shown in **Table 5-1** below to determine an overall significance.

Table 5-1: Matrix for Determining the Significance of Effects

		Sensitivity of Receptor/Receiving Environment to Change/Effect			
		High	**Medium**	**Low**	**Negligible**
Magnitude of Change/Effect	**High**	**Major**	**Major**	**Moderate**	Negligible
	Medium	**Major**	**Moderate**	Minor	Negligible
	Low	**Moderate**	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

5.5.10 Major and moderate effects are considered to be significant in the context of the EIA Regulations. Minor and negligible effects are not considered significant. The level of significance is identified in the methodology of each of the technical chapters of this EIA Report.

5.5.11 The characteristics of an effect will vary depending on the duration of the activity causing the effect, the sensitivity of the receptor and the resultant change. It is therefore necessary to assess whether the effect is temporary or permanent; beneficial or adverse; and indirect or direct. Effects that are temporary are usually reversible and generally confined to the construction period.

5.6 Identification of Mitigation Measures

5.6.1 Following the initial assessment, mitigation measures have been recommended to prevent, reduce or remedy any potentially significant adverse environmental effects identified. Such measures will be implemented during detailed design, construction and / or operation of the Proposed Development. Each technical chapter details the measures recommended to mitigate any identified significant effects, and a summary of the recommended mitigation measures is provided in Chapter 12 of this EIA Report.

5.6.2 Following the implementation of mitigation measures, an assessment of the significance of any residual effects has been undertaken. The findings are presented in each technical chapter of this EIA Report (Chapters 6-11).

5.7 Cumulative Effects

5.7.1 There are two aspects to Cumulative Effects, defined as follows:

- in-combination effects: the combined effect of the Proposed Development together with other reasonably foreseeable developments (taking into consideration effects at the site preparation and earthworks, construction and operational phases); and
- effects interactions: the combined or synergistic effects caused by the combination of a number of effects on a particular receptor (taking into consideration effects at the site preparation and earthworks, construction and operational phases), which may collectively cause a more significant effect than individually. A theoretical example is the culmination of disturbance from dust, noise, vibration, artificial light, human presence and visual intrusion on sensitive fauna (e.g. certain bat species) adjacent to a construction site.

5.7.2 The Royal Society for the Protection of Birds (RSPB) noted in their Scoping Response that impacts of the Proposed Development should be assessed in combination with other proposed and consented developments in the area, including the Lairg to Loch Buidhe Overhead Powerline proposal, as well as proposed wind farms, particularly in relation to black-throated divers and hen harriers. No specific developments were noted by other consultees within the Scoping Opinion as requiring consideration and assessment as part of the EIA for the Proposed Development.

5.7.3 Where relevant, the individual technical chapters within this EIA Report consider the potential cumulative effects between other nearby energy and overhead line developments and the Proposed Development.

5.8 Assumptions and Limitations

5.8.1 The key assumptions and limitations that have been identified in undertaking the EIA Report are set out below. Assumptions and limitations specific to certain topics are identified in the appropriate technical chapters:

- baseline conditions have been established from a variety of sources, including historical data, but due to the dynamic nature of certain aspects of the environment, conditions will change during the construction and operation of the Proposed Development;
- information received by third parties is complete and up to date; and
- the design, construction and completed stages of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge, and the Applicant's General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs).

5.8.2 Assumptions and limitations specific to certain topics are identified in the appropriate technical chapters.