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Reinforcement to the North Shropshire Electricity Distribution Network

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Environmental Statement Appendix 7.1
Ecology and Biodiversity Assessment Methodology

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The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Regulation 5(2)(a)

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Environmental Statement: Appendix 7.1 – Ecology and Biodiversity Assessment Methodology

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APPENDIX 7.1: ECOLOGY AND BIODIVERSITY ASSESSMENT METHODOLOGY

1.1 INTRODUCTION

1.1.1 This appendix sets out the approach and methodology used in the ecological assessment for Chapter 7 'Ecology and Biodiversity' (**DCO Document 6.7**) of the Environmental Statement (ES).

Assessment guidance and methods

1.1.2 The methodology for undertaking the ecological assessment has been developed in accordance with relevant guidance published by the Chartered Institute of Ecology and Environmental Assessment (CIEEM) *'Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2018) and complies with the requirements of the Overarching National Policy Statement for Energy (EN-1)[1] and National Policy Statement for Electricity Networks Infrastructure (EN-5)[2].

1.1.3 Ecological Impact Assessment (EcIA) is defined within the CIEEM guidelines is 'a process of identifying, quantifying and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems'.

1.1.4 The ecological assessment includes:

- Evaluation of identified important ecological features and potential receptors; faunal species, habitats and vegetation (as appropriate) on an international, national and regional basis;
- Description and evaluation of the potential effects of the Proposed Development on statutory and non-statutory sites designated for nature conservation;
- Description and evaluation of the potential effects of the Proposed

[1] Department for Energy and Climate Change, July 2011
[2] Department for Energy and Climate Change, July 2011

Development on species, habitats and vegetation, in accordance with current guidelines. Where uncertainties exist, professional judgment has been used to inform the ecological assessment;

- Assessment of cumulative effects; and
- Identification of opportunities for biodiversity enhancements.

1.2 ECOLOGICAL ASSESSMENT METHOD

1.2.1 For the purpose of the assessment, the terms 'impacts' and 'effects' are referred to in accordance with the definitions set out in the CIEEM Guidelines as follows:

- **Impact**: Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow;
- **Effect**: Outcome to an ecological feature from an impact. For example, the effects on a species' population from the loss of a hedgerow.

1.2.2 The EIA Regulations[3] require the identification of the 'likely significant effects of the proposed development on the environment' (Schedule 4 Part 1 Para 20).

1.2.3 The Proposed Development has been assessed as permanent for the purpose of this assessment and ecological effects have been described in terms of their duration as short, medium term and long-term as follows:

- Short-term effects are defined as 0 – 3 years;
- Medium term effects are defined as 3 – 15 years; and
- Long term effects are defined as > 15 years.

1.2.4 Long-term residual effects of the Proposed Development are typically those which would remain after a minimum fifteen years.

1.2.5 The effects on ecological features have been assessed based upon the

[3] Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2009/2263) as amended (the 'EIA Regulations').

interaction between the importance, or sensitivity, of the feature and the magnitude of change it is likely to experience.

1.2.6 In accordance with the CIEEM guidelines (2018), an EcIA need only assess in detail, impacts upon important ecological features i.e. those that are considered important and potentially affected. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable. Where ecological features are not considered important enough to warrant further consideration, or where they will not be significantly affected, these are scoped out of the assessment presented here, and justification for exclusion is provided.

1.2.7 Relevant European, national and local guidance from governments and specialist organisations has been referred to in order to determine the importance (or 'sensitivity') of ecological features. Importance has also been determined using professional judgement and taking account of the results of baseline surveys and the functional role of features within the context of the geographical area.

1.2.8 Importance does not necessarily relate solely to the level of legal protection that a feature receives and ecological features may be important for a variety of reasons, such as their connectivity to a designated site and the rarity of species or the geographical location of species relative to their known range. Ecological features may be important for a variety of reasons, examples of which include the diversity and naturalness of habitats, the rarity of species or the geographical location of species relative to their known range. The potential ecological effects of the construction and operation of the Proposed Development considered to be relevant to the EcIA are:

- Habitat loss, degradation or fragmentation during construction. The operation phase of the Proposed Development is not considered likely to have any significant effects on habitats additional to any identified and described for the construction phase, and this is explained with supporting information in the ES Chapter;

- Disturbance or harm to individuals of protected or notable species during construction works. The operation phase of the Proposed Development is not considered likely to have any significant effects on habitats additional to any identified and described for the construction phase, and this is explained with supporting information in the ES Chapter; and
- Risk of bird collision or electrocution due to the presence of the overhead line, when operational. The potential for increased predation by raptors and other species on vulnerable ground-nesting birds, related to the use of poles and lines as hunting perches, is also addressed.

1.2.9 Predicted effects are classified according to whether they are considered to be major, moderate, minor or negligible and beneficial or adverse. The assessment and reporting of ecological effects upon ecological features identified follows the principles set out in the CIEEM Guidelines 2016.

1.2.10 The assessment describes and considers only potentially significant effects in detail. In accordance with paragraph 5.25 of the CIEEM guidelines, a 'significant effect' is an effect that either:

'supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general'.

1.2.11 The guidance further states at paragraph 5.26, that:

'a significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project'.

1.2.12 In addition paragraph 5.26 of the guidance also notes that:

'A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring. A significant effect does not necessarily equate to an

effect so severe that consent for the project should be refused planning permission'.

1.2.13 For the purposes of this assessment the importance of an ecological feature is considered within a defined geographical context from International to Less than Local (or Site level), as detailed in Table A7.1.1.

Table A7.1.1 – Definition of Ecological Value

Sensitivity of Feature/Scale of Importance	Definition (examples)
High - International and European	Greater than a UK scale, typically valued at a European level such as internationally designated sites (Special Protection Areas (SPA), Special Areas of Conservation (SAC) and/ or Ramsar sites) or proposed/ candidate site (pSPA or cSAC), large area of a habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of the larger whole, large population of an internationally important species or site supporting such a species (or supplying a critical element of their habitat requirement) or species listed in Annex IV of the Habitats Directive.
High - National	UK: A nationally designated site (e.g. Site of Special Scientific Interest) or a discrete area which meets the selection criteria for national designation. An area of a priority habitat listed under Section 41 (England) of the Natural Environment and Rural Communities Act 2006 which constitutes a significant proportion of the UK resource of that habitat. A regularly occurring, regionally significant population of any nationally important species listed as a UK BAP / Biodiversity List and priority species listed under Section 41 (England) of the Natural Environment and Rural Communities Act 2006, and Species listed under Schedule 1 or Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive.
Medium – Regional/ County	Shropshire. Locally designated sites (Local Nature Reserves, County or Local Wildlife Sites). Areas of priority habitat which constitutes a significant proportion of the County's resource of that habitat. A regularly occurring, locally significant population of any

Table A7.1.1 – Definition of Ecological Value	
Sensitivity of Feature/Scale of Importance	Definition (examples)
	nationally important species listed as a UK BAP / priority species and priority species listed under Section 41 (England) of the Natural Environment and Rural Communities Act 2006, and Species listed under Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive.
Low - Local	Parishes and land areas between Oswestry and Wem along the route corridor of the Proposed Development. For example areas of priority habitat which are not large enough to meet the criteria for County value, or small but sustainable populations of a protected or notable species.
Negligible - Site	Considered within the context of the Order Limits of the Proposed Development only.

1.2.14 Once identified, potential impacts are described making reference to the following characteristics as appropriate: positive or negative, extent, magnitude, duration, timing, frequency, and, reversibility.

1.2.15 The assessment only makes reference to those characteristics relevant to understanding the ecological effect and determining its significance.

1.2.16 Ecological effects are described as far as possible and where available information allows in terms of the parameters detailed in Table A7.1.2.

Table A7.1.2 – Environmental Parameters	
Environmental Parameter	Description
Magnitude	The ‘size’ or amount of the effect is referred to as the magnitude and is determined on a quantitative basis where possible supported by professional judgement.
Extent	The area over which an effect occurs. The magnitude and extent of an effect may be synonymous.

Table A7.1.2 – Environmental Parameters	
Environmental Parameter	Description
Duration	The time over which an effect is expected to last prior to the recovery or replacement of the ecological receptor. This can be considered in terms of life cycles of species or regeneration of habitats. The duration may be longer than the duration of an activity.
Reversibility	Reversible (or temporary) effects are those that occur during the lifetime of the development and where spontaneous recovery or mitigation allows recovery within a reasonable timescale. Permanent effects are those which cannot be recreated within the proposed development or there is no reasonable chance that actions can be undertaken to reverse it.
Timing and frequency	The timing of effects in relation to important seasonal and/or life cycle constraints. The frequency with which activities and simultaneous effects would take place can be an important determinant.

1.2.17 The assessment considers how existing baseline conditions may change over time. Changes in the baseline could occur through land use and habitat changes, in the form of differing management and natural growth or succession of habitats.

Magnitude of Change

1.2.18 The magnitude of change effected on ecological receptors is described as set out in Table A7.1.3. The likelihood or probability that an effect will occur is addressed as far as possible based on available information. Whilst it is reasonably straightforward to identify effects that are certain to occur, or conversely will not occur, it is generally more difficult to assign a quantified level to occurrences defined as likely, unlikely or highly unlikely. In these circumstances, professional judgement has been used, with reasoning supported by available evidence.

Table A7.1.3 – Magnitude of Change	
Magnitude	Criteria
High	The change may negatively or positively affect the conservation status of a site or species population, in terms of the coherence of its ecological structure and function that sustains the habitat, complex of habitats and/or the population levels of species of interest.
Medium	Conservation status of a site or species population will not be negatively or positively affected, but some element of the functioning of the site or population might be affected and the change to the site/ population is likely to be significant in terms of its ability to sustain some part of itself in the long term.
Low	Neither of the above applies, but some minor negative or positive change is evident on a temporary basis, or the change affects extent of habitat or individuals of a species abundant in the local area.
Negligible	No observable effect in either direction.

1.2.19 The nature or magnitude of change that is likely to occur is determined by reference to its size/ scale, geographical extent and duration/ reversibility. The judgements on magnitude may need to be adjusted (either up or down) to reflect the duration of the change (i.e. short, medium or long term) and whether it is potentially reversible.

1.2.20 The assessment also identifies areas where no change is anticipated and the resulting effect are described as 'not discernable' or 'none'.

Determining Overall Significance

1.2.21 Ecological effects are considered in terms of the importance or sensitivity of the ecological feature and the magnitude of change effected upon it. A significant effect in the context of the ES (as set out in Chapter 4 'Approach and General Methodology' (**DCO Document 6.4**)) is considered to be any major or moderate effect on an important ecological receptor, whether positive or negative. In accordance with the overall approach described in

Chapter 4 'Approach and General Methodology' (**DCO Document 6.4**), the separate judgements about the sensitivity of the ecological receptor and the magnitude of likely effect is combined to allow a final judgement to be made about whether or not the effect is considered significant, and at what geographic scale (in line with CIEEM guidance). CIEEM guidelines on ecological impact assessment note that:

> *'A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures as long as the mitigation hierarchy has been applied effectively as part of the decision-making process*.'

1.2.22 In broad terms, significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).

1.2.23 For an effect to be significant, the ecological integrity or conservation status of a sensitive feature must be influenced in some way. It may be that the effect is substantial in magnitude or scale, irreversible, has a long-term effect, or coincides with a critical period in a species' life-cycle. Professional judgement is employed throughout, and where ecological features of lower value or importance could experience significant effects, albeit at a Local or Site geographic scale, this is discussed and a precautionary approach adopted where appropriate. Where uncertainty or limitations exist, this is acknowledged.

1.2.24 Significant effects are expressed with reference to an appropriate geographic scale. An effect on a species which is considered of national importance does not necessarily have a significant effect upon its national population. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect has been assumed as a precautionary approach. Where uncertainty exists, this is acknowledged. For the ecological impact assessment, an effect is considered to be significant where the

ecological integrity or conservation status of a sensitive feature will be influenced in some way. It may be that the effect is large in magnitude or scale, irreversible, has a long-term effect, or coincides with a critical period in a species' life-cycle. Effects may also be considered to be 'significant' at different geographic scales, for example 'Locally' significant, but not significant at a 'County' or 'National' scale.

1.2.25 It is recognized that discernible effects can also occur at a local geographic level or below which are not sufficiently severe to be 'significant' in accordance with the approach set out in Chapter 4 'Approach and General Methodology' (**DCO Document 6.4**) but nonetheless merit discussion as part of the assessment. In the interest of completeness these effects are discussed in Chapter 7 'Ecology and Biodiversity' (**DCO Document 6.7**) of the ES in relation to general construction good practices to avoid or minimise low-level or minor disruption as well as standard pollution avoidance and control measures.

1.2.26 Where the EcIA proposes measures to mitigate adverse effects on ecological features, a further assessment of residual ecological effects, taking into account any ecological mitigation recommended, has been undertaken.

1.2.27 Table A7.1.4 below sets out adapted CIEEM terminology, which also shows the equivalent EIA terms often used in other disciplines in line with the EIA Regulations.

Table A7.1.4 – Effects Significance

Effect (EIA Regulations Terminology)		Equivalent CIEEM Terminology used for Ecological Assessment
Significant	Beneficial	Positive impact on ecological integrity or conservation status of an ecological feature above a Local geographic scale.
Not significant	Minor Beneficial	Positive impact on ecological integrity or conservation status of an ecological feature at a Local geographic scale.

Table A7.1.4 – Effects Significance		
Effect (EIA Regulations Terminology)		Equivalent CIEEM Terminology used for Ecological Assessment
Neutral	Negligible	No discernible impact on ecological integrity or conservation status.
Not significant	Minor Adverse	Adverse impact on ecological integrity or conservation status but discernible only at a Local geographic scale.
Significant	Moderate-Major Adverse	Adverse impact on ecological integrity or conservation status at a County, National or International geographic scale.

Cumulative Effects

1.2.28 The assessment of cumulative ecological effects follows a similar methodology to that described above for the main ecological assessment, in that the degree of effect is determined by combining an evaluation of the sensitivity of the ecological feature and the magnitude of change. The resulting effect is described and considers the magnitude of change for example potentially arising from multiple developments or the combined effects of impacts occurring concurrently.

Approach to Mitigation

1.2.29 Effects during the construction period would be reduced by ensuring good construction and environmental working practices are adopted as outlined in the draft Construction Environmental Management Plan (CEMP) (Appendix 6.3.2 (**DCO Document 6.3.2**)).

1.2.30 As explained in Chapter 3 'The Proposed Development' (**DCO Document 6.3**) and Section 4.6 of Chapter 4 'Approach and General Methodology' (**DCO Document 6.4**), the main strategy for minimizing any adverse environmental effects of the Proposed Development has been avoidance through careful planning, design and routeing in accordance with the Holford Rules. This has led to the Proposed Development which is the subject of this ES and the application for an Order granting development consent.