

Chapter 2: Approach to the EIA

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Introduction

2.1 Environmental Impact Assessment (EIA) is a process which identifies the environmental effects (both beneficial and adverse) of development proposals to assist the consenting authority in considering and determining an application. Early identification of potentially adverse environmental effects also leads to the identification and incorporation of appropriate mitigation, management and enhancement measures into the project design to avoid, reduce, and if possible, remedy potentially significant adverse environmental effects.

2.2 As the Proposed Development exceeds the threshold for wind farms set out within Schedule 2 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ('the Regulations'), and as it is considered that it could potentially result in significant effects, an EIA is required. This chapter sets out the broad methodology that has been used in the EIA for the Proposed Development. It provides an overview of the key stages that have been followed, in line with the statutory EIA requirements and good practice guidance.

The EIA Process

2.3 This EIA Report has been prepared in accordance with the latest regulations and advice on good practice, comprising:

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ('the Regulations')¹;
- Scottish Government Web Based Guidance on Wind Turbines (Updated in May 2014)²;
- Planning Advice Note 1/2013 (PAN 1/2013) Environmental Impact Assessment (2013) (amended in 2017)³;
- Institute of Environmental Management and Assessment (IEMA) (2017) Delivering Proportionate Environmental Impact Assessment⁴; and
- Scottish Natural Heritage (SNH)⁵ (now NatureScot) (5th Edition) (2018) A Handbook on Environmental Impact Assessment: Guidance for Competent Authorities, Consultation Bodies and others involved in the Environmental Impact Assessment Process in Scotland⁶.

2.4 This EIA Report presents the written output of the EIA process. The information contained in this EIA Report fulfils the requirements of the EIA Regulations and will inform the competent authority in taking a decision on the Proposed Development.

2.5 Regulation 5(2) of the Regulations states that the following information is required in an EIA Report:

- A description of the development comprising information on the Site, design, size and other relevant features of the development;
- A description of the likely significant effects of the development on the environment;
- A description of the features of the development and any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- A description of the reasonable alternatives studied by the developer, which are relevant to the 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;
- A non-technical summary of the information; and

- Any other information specified in Schedule 4 of the Regulations relevant to the specific characteristics of the development and to the environmental features likely to be affected.

Good Practice Guidance

2.6 PAN 1/2013 (as amended) provides guidance on good practice, and the key steps to be followed in the EIA process are identified in the IEMA and SNH guidance:

- Scoping
 - Undertake a Scoping exercise to establish likely significant effects.
 - Baseline Studies
 - Examine, through baseline studies, the environmental character of the area likely to be affected by the development.
 - Identify relevant natural and man-made processes which may already be changing the character of the Site.
 - Predicting and Assessing Effects
 - Consider the possible interactions between the Proposed Development and both existing and future site conditions.
 - Predict and assess the possible effects, both beneficial and adverse, of the development on the environment.
 - Mitigation, Management and Enhancement
 - Introduce design and operational modifications or other measures to avoid, reduce or offset adverse effects and enhance positive effects.
- 2.7** PAN 1/2013 (as amended) identifies the following key principles of EIA:
- Integration:
 - EIA should be an iterative process which aims to ensure early consideration of environmental issues at all stages of project development, and is founded on appropriate engagement with planning authorities and the consultation bodies. In addition to meeting the requirements of the Regulations, EIA should add value to the design process, improving environmental outcomes and creating a framework for community engagement.
 - Proportionality:
 - EIAs should be fit for purpose and must be accessible to the planning authority, consultees and the public. Consequently, it should focus on likely significant environmental effects to avoid being overly long in nature.
 - Efficiency:
 - Early identification of assessment and information requirements can ensure a coordinated EIA process and can minimise delays.

2.8 This EIA Report provides a clear and concise assessment of the Proposed Development and its likely significant environmental effects, including primary, secondary, direct, indirect and cumulative effects, on the natural, built and human environments. The EIA Report provides the determining authority, in consultation with statutory consultees and the wider community, with sufficient

¹ Although the UK has withdrawn recently from the EU from which the Regulations stem (Directive 2014/52/EU), the UK government is committed to maintaining the highest environmental standards and will continue to uphold international obligations through multilateral environmental agreements. For this reason, it is expected that it will be 'business as usual' for EIA, at least in the foreseeable future, and the current Regulations remain in force.

² Scottish Government. 2014, 'Onshore Wind Turbines', Scottish Government Renewable Energy Policy Subject, Available [online] at: <https://www2.gov.scot/Resource/0045/00451413.pdf>

³ Scottish Government, 2013, Planning Advice Note 1/2013: Environmental Impact Assessment

⁴ Institute of Environmental Management and Assessment (2017), Delivering Proportionate EIA: A collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice, Available [online] at: <https://www.iema.net/policy/ia/proportionate-eia-guidance-2017.pdf>

⁵ Scottish Natural Heritage (SNH) changed its name to NatureScot at the end of August 2020, however any publications or data which pre-dates this will remain as SNH and are referenced as such throughout this EIA Report.

⁶ SNH (2018) (5th Edition) A Handbook on Environmental Impact Assessment; Guidance for Competent Authorities, Consultation Bodies and other involved in the Environmental Impact Assessment Process in Scotland (Version 3), Available [online]: <https://www.nature.scot/handbook-environmental-impact-assessment-guidance-competent-authorities-consultees-and-others>

information to make an objective judgement as to the acceptability of the Proposed Development, within the context of national, regional and local planning and environmental policy.

EIA Methodology

2.9 Good practice in EIA is defined in a number of sources as set out above. The methods followed in this EIA Report have drawn on these sources to generate a robust assessment. The EIA Report preparation process adopted for the Proposed Development can be summarised as follows, and is described further below:

- Scoping and consultation with statutory consultees, non-statutory consultees and the local community to identify the key issues on which the EIA should focus;
- Establishing baseline environmental conditions through desktop research and site surveys;
- Determining how effects could be avoided or reduced through design evolution;
- Identifying the potential effects of the Proposed Development and any proposed mitigation;
- Assessing the significance of residual environmental effects on the identified receptors against recognised or defined criteria following mitigation;
- Describing how likely significant effects would be monitored (e.g. through conditions attached to a consent); and
- Reporting the process, results and conclusions.

Scoping and Consultation

2.10 Consultation has formed an integral part of the EIA Report preparation process, and the EIA team and the Applicant have contacted a number of interested parties over the course of the project to determine their views on the Proposed Development and to collect baseline information.

Consultation with Statutory and Non-Statutory Consultees

2.11 Prior to the submission of a request for an EIA Scoping Opinion, the Applicant engaged with The Highland Council (THC) through the Pre-Application Advice service. A Pre-Application Advice meeting was held on 3rd February 2020 where the following points were discussed:

- Background/planning history of the Site;
- Details of the Proposed Development (including design aspirations);
- Figures showing an early iteration of the proposed layout and an accompanying Zone of Theoretical Visibility (ZTV); and
- Details of the forthcoming submission, including the EIA Report.

2.12 THC issued pre-planning advice on 3rd March 2020 which provided guidance on the design and layout of the Proposed Development, as well as identifying supporting information that would be required to accompany the application, and advice on the relevant planning policy context and key issues to be addressed in taking the project forward.

2.13 Input was provided into the pre-planning advice by a number of internal teams at THC and consultees including:

- THC Scientific Officer;
- THC Transport Planning Team;
- THC Flood Risk Management Team;
- THC Environmental Health Officer;

- THC Access Officer;
- The Scottish Environment Protection Agency (SEPA);
- Transport Scotland;
- Historic Environment Scotland; and
- NatureScot.

2.14 Initial discussions were also held with the Scottish Government Energy Consents Unit (ECU) prior to submission of the formal request for an EIA Scoping Opinion as detailed further below.

Scope of the EIA Report

2.15 To determine which aspects of the Proposed Development are likely to give rise to environmental effects and to inform the requirements for the EIA Report, a request for an EIA Scoping Opinion accompanied by a Scoping Report was submitted under Regulation 12(1) of the Regulations to Scottish Government ECU in December 2020.

2.16 The purpose of scoping is to ensure that the EIA process focuses on the key environmental issues. Therefore, the Scoping Report sought to focus the EIA on the main effects, with each of the topic-based chapters within the Scoping Report setting out a provisional list of likely significant effects prior to mitigation and a second provisional list of non-significant effects to be 'scoped out' of full assessment. These were drafted on the basis of the findings of the preliminary survey work undertaken, the professional judgement of the EIA team, experience from other projects of a similar nature, and guidance and standards of relevance to the topic area in question.

2.17 On this basis, whilst a range of possible effects have been investigated as part of the EIA process, only effects identified as potentially significant prior to the implementation of the proposed mitigation measures have been addressed fully in the EIA Report.

2.18 The ECU provided a Scoping Opinion on 30th April 2021. The Scoping Opinion included comments received from a number of consultees. A summary of the issues raised in response to the Scoping Report is provided in **Appendix 2.1: Consultation Response Table**⁷. It has been assumed that consultees who did not respond to the ECU's consultation request had no comments to make⁸. **Appendix 2.1** also includes a brief response to each of the issues raised and indicates where these have been taken into consideration in the EIA Report. More detailed responses are included in the relevant EIA Report chapters.

2.19 In addition to the consultees contacted during the formal Scoping process, a number of other stakeholders were contacted by both LUC and topic specialists to obtain background information to further inform the EIA and allow them the opportunity to raise any concerns that they might have in relation to the Proposed Development. Details of these consultations are provided in **Chapters 6 to 14**.

2.20 The Applicant engaged fully with the ECU throughout the Section 36 Gatecheck process (Gatecheck 1 and 2). The purpose of Gatecheck 1 was to allow the Applicant to seek feedback from key consultees on the design evolution, and to seek agreement on proposed methodologies and issues raised at Scoping. To inform this, the Applicant submitted a Gatecheck report including a draft Scoping response table to the ECU on 3rd November 2022 which set out the way in which the issues raised by consultees at Scoping will be addressed in the EIA Report. Details of the latest design and how this had changed since EIA Scoping was also provided for comment and discussion. The ECU subsequently issued the information to consultees on 24th November 2022 seeking feedback. Responses were received from HES, NatureScot, RSPB, Strathglass Community Council, SEPA and THC and are summarised in **Table 2.2 of Appendix 2.1**.

Topic Areas Scoped Out of Detailed Assessment

2.21 PAN 1/2013 (as amended) provides advice on the general requirements relating to the preparation and content of an EIA Report⁹ and states:

"Whilst every ES should provide a full factual description of the development, the emphasis of Schedule 4 is on the 'significant' environmental effects to which a development is likely to give rise. Some effects may be of little value or no significance for the

⁷ To avoid duplication, comments made by consultees and which are also included in the ECUs overarching Scoping Opinion, have not been repeated.

⁸ The exception to this is SEPA which was subject to a cyber-attack on Christmas Eve 2020. As a result, SEPA did not provide specific advice in relation to the Proposed Development at the EIA Scoping stage. Further consultation was, however, undertaken with SEPA in October 2022 and via the Scottish Government Energy Consents Unit Gate Check process in November 2022.

⁹ Formerly Environmental Statement (ES).

particular development in question. They will therefore need only very brief treatment to indicate that their possible relevance has been considered.”

2.22 Furthermore, PAN 1/2013 (as amended) notes that Scoping forms a key part of the EIA process, and that its purpose is to:

- Identify the key issues to be considered;
- Identify those matters which can either be scoped out or which need not be addressed in detail;
- Discuss and agree appropriate methods of impact assessment, including survey methodology where relevant; and
- Identify any other project level assessment or survey obligations which may apply.

2.23 In line with the above guidance, where effects have been identified (whether at Scoping or during detailed assessment) as being not significant to warrant further assessment, these have been 'scoped out' and given only brief treatment in the relevant topic chapters. Effects scoped out of the EIA are detailed in **Chapters 6 to 14**. Whole topics scoped out are detailed below.

Population and Human Health

2.24 IEMA guidance¹⁰ states that an EIA Report chapter for human health is required where:

- *Either other EIA technical topics have been scoped in to assess likely and potentially significant effects to human receptors, community amenities or services, and there are likely and potential significant population health implications from such assessments;*
- *Or there is likely to be a change to the project in a wider determinant of health not covered by other EIA technical topics, and this change is potentially significant for population.*

2.25 In reviewing the potential for human health effects, consideration has been given to the significance of primary effects identified throughout the EIA Report to determine if there could be 'secondary effects' on human health. Where primary effects are not predicted to be significant, e.g. operational and cumulative noise, then there is not considered to be a potential health effect.

2.26 Health effects that could be a result of construction and operational noise and construction traffic accidents have not been considered in detail, as these effects have either been scoped out as primary effects or have been found not to be to be significant as primary effects.

2.27 Health effects as a result of deterioration of water quantity and quality of public and private water supplies have also not been considered in detail, as the Site is not a source zone for public water supply, is not in a Drinking Water Protection Area and there are no private water supplies that are hydrologically linked to construction works for the Proposed Development which could be affected.

2.28 It is not considered that there will be a change to any wider determinant of health as a result of the Proposed Development. As such, potential effects on population and human health have been scoped out of detailed assessment.

Dust

2.29 With respect to dust effects during construction and operation of the Proposed Development, the Design Manual for Roads and Bridges (DMRB) states that the locations of 'sensitive receptors' within 200m of construction areas should be identified and mitigation measures to reduce dust effects be applied. There are no properties within 200m of where construction works are proposed. The Applicant will commit to adopting good practice measures for dust management during construction and will implement these through a Construction Environmental Management Plan (CEMP), thereby controlling and reducing any potential effects that dust generation may have on health. No significant effects relating to dust are therefore predicted. During operation of the Proposed Development, there will be limited dust-raising maintenance activities and vehicular movements to and from the Site will also be limited.

Shadow Flicker

2.30 Shadow flicker is a phenomenon where, under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. It only occurs inside buildings where the flicker appears through a narrow window opening.

2.31 A shadow flicker assessment is generally required if any properties lie within 10x rotor diameter of the wind farm. This is in line with Scottish Government online renewables planning advice on 'onshore wind turbines' which states that "where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), 'shadow flicker' should not be a problem."

2.32 On the basis that the nearest properties are over 5km from the nearest turbine (T3) at Levishie, as illustrated in **Figure 11.1**, a detailed shadow flicker assessment has not been required and effects of shadow flicker are not considered further.

Major Accidents and Disasters

2.33 In accordance with the latest IEMA guidance¹¹, it has been important to adopt a proportionate approach for this assessment, given that many events which could be classified as 'major accidents and disasters', and which could cause significant effects on the environment, are not relevant to the Proposed Development or its location. The Proposed Development is not located in an area with a history of natural disasters such as extreme weather events, and its construction and operation will be managed within the requirements of a number of health and safety related Regulations, including the Construction (Design and Management) Regulations 2015 and the Health and safety Work etc. Act 1974.

2.34 All other effects assessed in the EIA which could be deemed to cause a major accident or disaster have been assessed elsewhere, and these are deemed to be low likelihood but potentially high consequence events. These relate primarily to potential peat slide risk events which have been assessed in **Chapter 7: Geology, Hydrology, Hydrogeology and Peat** (see also **Appendix 7.4: Peat Landslide Hazard and Risk Assessment (PLHRA)**).

2.35 The guidance is clear that major accidents and disasters can also be scoped out where proposed design measures or compliance with legislation and best practice will minimise the likelihood of a major accident or disaster occurring. Specific to the Proposed Development, this relates to a failure of the structural integrity of a turbine(s) or a mechanical fault. Modern turbines are fitted with sensors which detect if wind speeds are too high to operate safely, resulting in their shut down. This prevents excessive wear and damage to the gearbox and reduces the risk of turbines catching fire, the occurrence of blade failure or even a failure of the structural integrity of the turbine itself. Turbines will also be constructed to very high design standards specified by the manufacturer and will be maintained on a regular basis to ensure that they are structurally sound.

2.36 The occurrence of wind turbines catching fire from suspected lightning strikes is also very rare, and there is no evidence that human life has been at risk from such events occurring in the past; assisted by turbine designs that include an embedded lightning protection system. Notwithstanding this, the Applicant will implement measures to safeguard staff members in the event of lightning strikes. This will include utilising the visual eyes Met Office software to generate morning reports of the weather forecast and alerting the control room of the presence of lightning in the area. The forecast will be monitored throughout the day and technicians/control room informed of any changes from the morning report. Specific protocols will be put in place in the event that a lightning storm occurs whilst staff members are occupying a turbine. Measures will include vacating turbines and substations, if possible, and implementation of procedures where this is not possible (including retreating to the safest location within turbines), and postponing further working outdoors, and on turbines, until it is safe to continue the work.

2.37 The Construction (Design and Management) Regulations 2015 have formed an integral part of the conceptual design of the Proposed Development. Any health and safety risks have been taken account of and their consideration reflected in the design. Surveys and investigations have been undertaken throughout the pre-consent phase to, as far as reasonably practicable, identify, manage and if possible, avoid any potential risks during construction.

2.38 All construction activities will be managed within the requirements of the Regulations and will also comply with the requirements of the Health and Safety at Work etc. Act 1974 as noted above. To further reduce possible health and safety risks, a Health and Safety Plan for the project will also be drawn up. All staff and contractors working on the construction will be required to comply with the safety procedures and work instructions outlined in the Plan at all times.

2.39 To ensure that hazards are appropriately managed, risk assessments will be undertaken for all major construction activities, with measures put in place to manage any hazards identified.

2.40 With respect to turbine icing, the Scottish Government web-based renewables advice for onshore wind turbines³ states that "The build-up of ice on turbine blades is unlikely to present problems on the majority of sites. When icing occurs, the turbines' own vibration sensors are likely to detect the imbalance and inhibit the operation of the machines". In addition, the Applicant will implement

¹⁰ Effective Scoping of Human Health in Environmental Impact Assessment (November 2022) <https://www.iema.net/resources/reading-room/2022/11/18/iema-guides-health-in-eia>

¹¹ IEMA (2020) Major Accidents and Disasters in EIA: A Primer.

measures to ensure the safety of workers and the general public in relation to ice throw and ice fall, including notices throughout the Site alerting members of the public of the possible risk of ice throw and ice fall under certain conditions.

Telecommunications

2.41 Wind turbines can cause electromagnetic interference through physical and electrical interference. Physical interference can cut across electromagnetic signals resulting in a 'ghosting' effect which largely affects television signals and radar. Electrical interference arises as a result of the operation of the generator within the nacelle of the turbine and can also affect communication equipment in proximity to the turbines. Where possible, any potential effects on radio-communication links and television will be mitigated at the turbine layout design stage by the use of exclusion zones around any link paths.

2.42 The Office of Communications (Ofcom) is responsible for the licensing of two-way radio transmitters and holds a register of most microwave links. However, because not all microwave links are published, system operators were individually consulted on the Proposed Development's potential to cause electromagnetic interference. The outcome of this consultation process did not reveal any telecommunications receptors which could be effected as a result of the construction and operation of the Proposed Development.

Decommissioning

2.43 An assessment of effects during the decommissioning phase has not been undertaken in the EIA as the baseline against which to assess likely significant decommissioning effects cannot be easily predicted, and the approach to decommissioning is not currently known. However, a method statement will be prepared and agreed with the relevant statutory consultees prior to decommissioning of the Proposed Development. A draft method statement is included in the Outline CEMP which is included as **Appendix 4.1**.

Public Consultation

2.44 Due to Covid-19 restrictions in place at the time, the first public exhibition was held online between 21st May and 14th June 2021. This provided information on the project and gave an opportunity for the local community to provide feedback on the proposals. The information that was presented is available on the project website: www.lochliath.co.uk and included:

- Visuals of the proposed project;
- Videos from the project team;
- Frequently asked questions; and
- An opportunity to speak to the project team directly.

2.45 An invitation to attend the virtual exhibition was sent to over 2,000 homes, advertised in the Press and Journal newspaper and advertised on social media to ensure that local residents knew about the opportunity to provide feedback. The invitation included a freepost reply card and an 0800 phone number for those who were unable to participate online. Three virtual chat sessions were also held to enable visitors to the virtual exhibition to engage with Statkraft and ask questions about the Proposed Development.

2.46 A second round of public exhibition comprised in-person events in addition to a virtual exhibition. The purpose of the consultation was to provide engagement opportunities on the evolved project design and to provide an update following the completion of surveys and baseline data gathering carried out as part of the EIA process.

2.47 The online element of the exhibition ran from 16th August to 6th September 2022. The exhibition was again hosted on a dedicated webpage accessed through the main project page at www.lochliath.co.uk. Materials included an exhibition brochure, a Zone of Theoretical Visibility Map, a site map, visualisations, digital versions of the banners produced for the face-to-face exhibition and an online feedback form.

2.48 The in-person exhibitions included a series of eight project banners, visualisations, and an interactive board where visitors could suggest uses for the Community Benefit Fund. An exhibition team of ten people was present to host the public exhibition, including staff with a diverse range of skills from the Applicant, LUC and Kane Partnership. In-person events took place at the following locations:

- 30th August 2022: Cannich Village Hall, Cannich (4-7pm);
- 31st August 2022: Glen Urquhart Public Hall, Drumnadrochit (12-6.30pm); and
- 1st September 2022: Glenmoriston Millennium Hall, Invermoriston (1.30-4.30pm).

2.49 From 16 August, households and businesses began receiving direct correspondence from the Applicant via Royal Mail inviting them to attend the exhibitions and to participate in the exhibition online. This consisted of an invitation leaflet along with a survey reply card and a freepost envelope sent to 1,993 household and business addresses. This was based on an identical geographical area to the Virtual Exhibition mailing, with addresses updated to reflect the latest available Royal Mail records.

Baseline Characterisation

2.50 The purpose of the EIA is to predict how environmental conditions may change as a result of a development. This requires that the environmental conditions now, and in the future assuming no development on the site, are identified. These conditions are referred to as the 'baseline' and are usually established through a combination of desk-based research, site survey, and empirical studies and projections. Together, these describe the current and future character of the Site and surroundings, and the value and vulnerability of key environmental resources and receptors.

2.51 Making predictions about how parameters such as land use, landscape, views and other environmental characteristics may change in the future relies on assumptions about future development and environmental trends. For this reason, where development is not proposed in the vicinity of the Site, the baseline adopted for the EIA is taken as the current character and condition of the Site and surrounds, and the likely significant environmental effects of the development are then assessed in the context of the current conditions alone.

2.52 As natural processes and/or human activities can affect the baseline ('status quo'), it is important to establish future baseline scenario in the absence of the Proposed Development, i.e. the likely environmental conditions that would exist should the Proposed Development not be constructed. Establishing the future baseline scenario requires transparent decision making as to what natural process changes and/or changes as a result of human activity should be included or excluded from the future baseline scenario.

2.53 It is accepted that the baseline conditions will gradually alter through time as a result of climate change which has the potential to alter the landscape and species of flora and fauna which are currently prolific within and around the Site. However, these climate change effects are unlikely to materially alter the findings of the EIA (see **Chapter 14: Other Issues**).

2.54 Baseline conditions, and the means by which these have been established, as well as consideration of the future baseline scenario which acknowledges the absence of the Proposed Development, are described in **Chapters 6 to 14** of the EIA Report.

Avoidance of Effects through Design

2.55 EIA is an iterative process which aims to ensure early consideration of environmental issues at all stages of project development. In this way, the findings from the EIA can be fed into the design process, to avoid, reduce and if possible, remedy environmental effects. This approach has been followed in the design of the Proposed Development. Where potentially adverse significant environmental effects were identified through environmental baseline surveys, or later in the detailed EIA, consideration was given as to how the design should be modified to 'design out' adverse significant environmental effects, or where this was not possible, to determine appropriate mitigation. This process is explained further in **Chapter 3: Site Selection and Design Strategy** and in the subsequent assessment chapters (**Chapters 6 to 14**).

Identification of Likely Significant Effects

2.56 Part 5 of Schedule 4 of the Regulations states:

"The description of the likely significant effects on the factors specified in regulation 4(3) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development".

2.57 Each technical chapter contains a section that identifies the likely significant effects on the environment that may arise as a result of the construction and/or operation of the Proposed Development. The significance of environmental effects is typically assessed by considering both the character of the change (i.e. the size and duration of the effect) and the value/sensitivity of the environmental resource that experiences this effect (i.e. the receptor).

2.58 In accordance with the Regulations, effects may be direct, indirect, secondary or cumulative. Within these categories, effects may also be short, medium or long-term, permanent or temporary, beneficial or adverse. Direct (or primary) effects are changes to the baseline arising directly from activities that form part of the Proposed Development, for example, a localised increase in noise during construction. Indirect (or secondary) effects are those that arise as a result of a direct effect, for example deterioration of water quality in a watercourse due to a discharge could have secondary effects on aquatic biodiversity.

2.59 Effects and receptors have been described using quantitative criteria wherever possible using those listed below. Where different terminology has been used, this is stated clearly in the relevant chapter:

- The nature of the effect, described as adverse, neutral or beneficial;
- The magnitude of the effect, based on a scale of major, moderate, slight, negligible and unknown;
- The likelihood of the effect occurring, based on a scale of certain, likely or unlikely;
- The duration of the effect, based on a scale of long, medium and short term;
- The reversibility of the effect, being either reversible or irreversible;
- The value of the receptor, based on a scale of international, national, regional, local and negligible;
- The sensitivity of the receptor to the effect, based on a scale of high, medium and low and in some instances negligible; and
- The occurrence of the effect during the phased implementation of the project.

2.60 Each of the technical chapters provides the specific criteria, including sources and justifications, for quantifying the different levels of effect, based on good practice guidance. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgements and expert interpretations to establish to what extent an effect is environmentally significant. The threshold at which effects are likely to be 'significant' is defined in each of the technical chapters. Where relevant, maximum case parameters have been assumed to inform a robust assessment of effects in each chapter, and this is considered to represent a worst-case approach.

2.61 Unless stated otherwise in methodologies set out in the individual assessment chapters, effects of 'major' or 'moderate' significance are considered to be 'significant' in the context of the Regulations.

2.62 As noted above, decommissioning effects have not been included in the assessments because of the long timeframe until their occurrence (>30 years), the uncertainty in relation to future baseline conditions and the resulting difficulty in predicting these effects with confidence. They are, however, considered to be similar to those of construction effects in nature but are likely to be of a shorter duration. A method statement will be prepared and agreed with the relevant statutory consultees prior to decommissioning of the Proposed Development.

Interrelationship between Effects

2.63 Although the EIA Report is structured in standalone topic specific chapters, many of the considerations are interrelated, such as ecology and hydrology. As such, the interrelationship between potential effects between two topic areas is also considered in accordance with the Regulations and addressed in **Chapters 6 to 14**.

Cumulative Effects

2.64 As required by the Regulations, the EIA Report considers the possible effects that a proposal may have in combination with existing or consented developments. It also considers other Proposed Developments or activities. Likely cumulative effects have been defined as the likely effects that the Proposed Development may have in combination with other wind farms which are at application stage, consented, under construction or operational (i.e. the incremental effects resulting from the Proposed Development if all other wind farms are assumed to be constructed/operational)¹². The schemes for inclusion in the cumulative assessment were agreed with THC and the ECU.

2.65 It should be noted that the specific wind farms which are included within the cumulative effect assessment varies from one technical chapter to another according to the particular effects which are under consideration, for example all of the cumulative developments within a 60km radius are included within **Chapter 6: Landscape and Visual Amenity**, however this approach is not appropriate for **Chapter 8: Ecology** due to the potential receptors being much more localised. The rationale for the wind farms included in the cumulative assessments is explained within each technical chapter.

2.66 The cut-off date for cumulative data collection was 6th December 2022. Changes to the cumulative baseline have not been included after this cut-off date to allow time for the assessment to be prepared. Therefore, cumulative assessments undertaken are considered to reflect the latest cumulative situation as far as possible.

Mitigation, Enhancement and Monitoring

2.67 Part 7 of Schedule 4 of the Regulations states that an EIA Report should include: "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".

2.68 The EIA has identified where there are likely to be any significant effects, and where possible identified opportunities to mitigate these effects. Making a judgement on the likely effectiveness of the mitigation measures proposed, residual effects following the implementation of these mitigation measures are then documented within this EIA Report.

2.69 It is important to note a number of measures are an integral part/good practice during the construction process and have been taken into account prior to assessing the likely effects of the Proposed Development. Where relevant, these embedded mitigation and good practice measures are described in the topic chapters and are detailed in **Appendix 4.2: Schedule of Good Practice and Mitigation Measures**. Any mitigation measures identified over and above the standard embedded or good practice measures are also identified, and are termed 'additional mitigation measures'.

Data Gaps, Assumption and Uncertainty in Assessment

2.70 Part 6 of Schedule 4 of the Regulations requires that EIA Reports provide "details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved".

2.71 Whilst any assessment limitations are discussed in **Chapters 6 to 14**, it is considered that this EIA Report contains adequate information to enable the ECU, THC and consultees to review and form a reasoned conclusion on the likely significant effects of the Proposed Development on the environment.

2.72 Each topic chapter also lists the relevant assumptions that have been made when completing the assessment. Again, it is not considered that these assumptions present limitations to understanding potential significant effects.

Competent Experts

2.73 Regulation 5(5)(a) and (b) of the Regulations states that:

"In order to ensure the completeness and quality of the EIA report—

(a) the developer must ensure that the EIA report is prepared by competent experts; and

(b) the EIA report must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts".

2.74 As noted in **Chapter 1: Introduction**, a statement of competency, setting out the qualifications and experience of chapter authors is provided in **Appendix 1.1: Statement of Expertise** and in the introductory paragraphs of **Chapters 6 to 14**.

¹² The cumulative landscape and visual amenity assessment considers the additional effect of the Development in the context of existing and proposed wind farms in accordance with SNH Guidance: Assessing the Cumulative Impact of Onshore Wind Energy Developments (2012).