



# Wylfa Newydd Project

6.2.1 ES Volume B - Introduction to the environmental assessments B1 - Introduction to the assessment process

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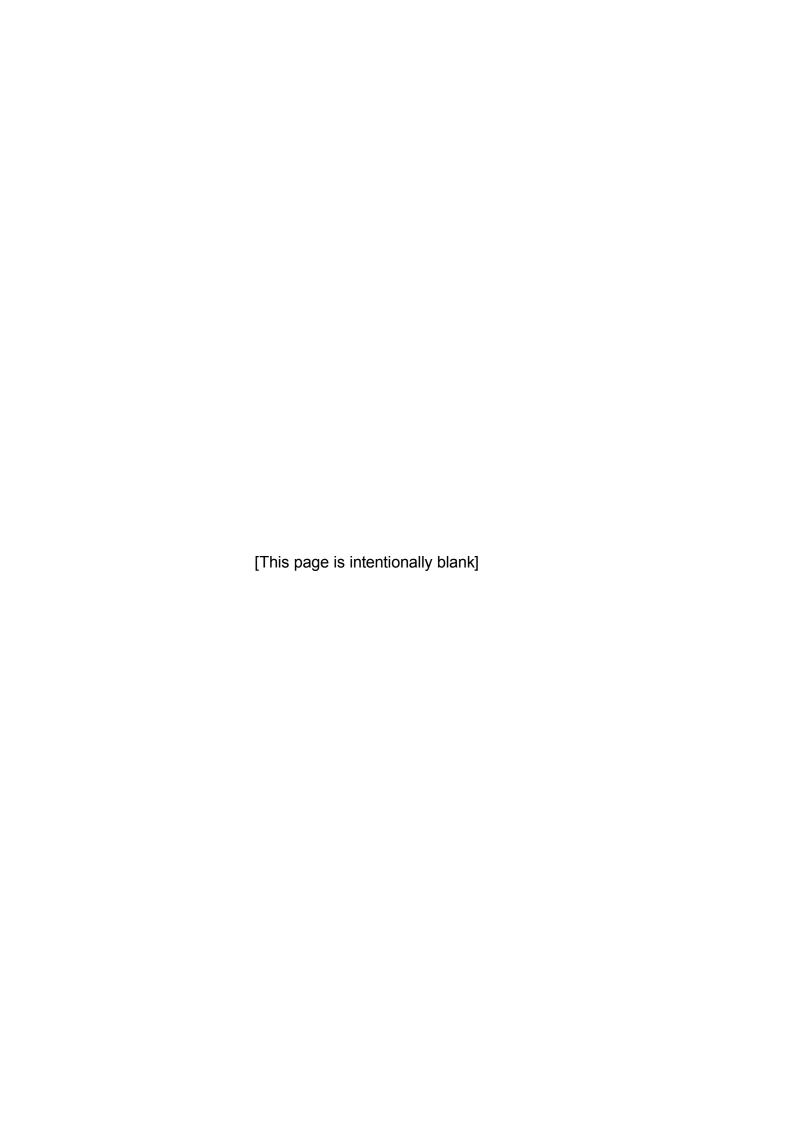
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# 1 Introduction to the assessment process

#### 1.1 Introduction

- 1.1.1 This chapter sets out the overall assessment principles that have been followed for the Wylfa Newydd Project Environmental Impact Assessment (EIA).
- 1.1.2 Topic-specific assessment methods are described within this Environmental Statement in the following chapters:
  - B2 (socio-economics) (Application Reference Number: 6.2.2);
  - B3 (traffic and transport) (Application Reference Number: 6.2.3);
  - B4 (public access and recreation) (Application Reference Number: 6.2.4);
  - B5 (air quality) (Application Reference Number: 6.2.5);
  - B6 (noise and vibration) (Application Reference Number: 6.2.6);
  - B7 (soils and geology) (Application Reference Number: 6.2.7);
  - B8 (surface water and groundwater) (Application Reference Number: 6.2.8);
  - B9 (terrestrial and freshwater ecology) (Application Reference Number: 6.2.9);
  - B10 (landscape and visual) (Application Reference Number: 6.2.10);
  - B11 (cultural heritage) (Application Reference Number: 6.2.11);
  - B12 (coastal processes and coastal geomorphology) (Application Reference Number: 6.2.12);
  - B13 (marine environment) (Application Reference Number: 6.2.13);
  - B14 (radiological effects) (Application Reference Number: 6.2.14);
  - B15 (shipping and navigation) (Application Reference Number: 6.2.15);
     and
  - B16 (waste and materials management) (Application Reference Number: 6.2.16).
- 1.1.3 Each method follows the assessment principles set out in this chapter as far as possible, and all are broadly similar to each other, although particular differences and the reasons for them are set out in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16).
- 1.1.4 This chapter relates to the EIA only. There are a number of other supporting assessments accompanying the Development Consent Order (DCO) application and those have followed the methods set out in their respective standalone assessment reports. Those assessments are the Welsh Language Impact Assessment (WLIA) (Application Reference Number: 8.21), Health Impact Assessment (Application Reference Number: 8.19), Equality Impact Assessment (Application Reference Number: 8.22) and Shadow Habitats Regulations Assessment (Application Reference Number: 5.2).

- 1.1.5 The EIA has been undertaken by suitably qualified and experienced specialists, as listed in section 1.5 of this chapter.
- 1.1.6 This chapter outlines the following:
  - the process followed to determine the scope of the EIA;
  - the overall method used to establish the existing environmental conditions or 'baseline';
  - the way in which environmental effects are predicted;
  - the method by which the magnitude of impact and significance of environmental effects are assessed:
  - the process used to avoid, reduce or mitigate environmental effects;
  - the reporting of residual effects; and
  - the methods used to assess cumulative effects.
- 1.1.7 Broadly, the EIA process can be described as "the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made" [RD1]. This involves the following steps, underpinned by stakeholder consultation:
  - screening;
  - scoping;
  - environmental assessment;
  - reporting;
  - · decision making; and
  - mitigation and monitoring.
- 1.1.8 The EIA process is intended to provide a tool to inform better design, help decision making and protect the environment.
- 1.1.9 Figure B1-1 illustrates the EIA process.

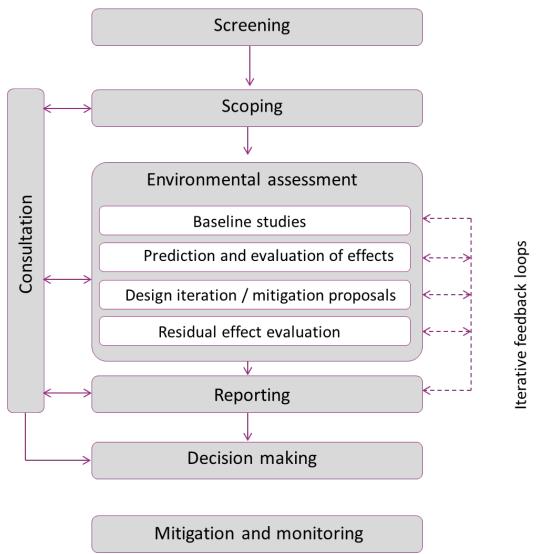


Figure B1-1 The EIA process

# 1.2 Screening

1.2.1 The construction and operation of a Nuclear Power Station is an Annex 1 project under Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the EIA Directive). All Annex 1 projects require a formal, statutory EIA, and for this reason it was not necessary to seek a formal screening opinion for the Wylfa Newydd Project.

# 1.3 Scoping

1.3.1 This Environmental Statement is being submitted in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended (the EIA Regulations) and the Marine Works (Environmental Impact Assessment) Regulations 2007. These two sets of Regulations specify the information required to be included in an Environmental Statement. In accordance with these requirements, this Environmental Statement provides the following:

- a description of the Wylfa Newydd Project, including the Power Station Site, Off-Site Power Station Facilities and Associated Developments; land-use requirements during construction and operation; and estimates by type and quantity of any emissions arising from the developments;
- an outline of the need for the scheme, including alternatives considered and the main reasons for the choice of the preferred scheme, taking into account environmental effects;
- a description of the aspects of the environment likely to be significantly affected by the Wylfa Newydd Project;
- a description of the likely significant effects of the Wylfa Newydd Project on the environment, including direct and indirect; secondary; cumulative; short-, medium- and long-term; permanent and temporary; positive and negative effects, and a description of the forecasting methods used to assess the effects on the environment:
- a description of the measures envisaged to prevent, reduce and, where possible, offset any significant adverse effects on the environment;
- an indication of any difficulties encountered in compiling the required information; and
- a non-technical summary of the above information.
- 1.3.2 An underlying principle of the EIA process is that it should be proportionate and concentrate on those environmental issues where the effects associated with a development proposal have the potential to be significant. A scoping process has been undertaken in order to identify the issues to be included.
- 1.3.3 The scoping process for the Wylfa Newydd Project involved:
  - a review of available documentation relating to the existing environment;
  - consultation with statutory and non-statutory agencies and other environmental bodies, with knowledge of Wylfa Newydd Development Area, Off-Site Power Station Facility location, Associated Development sites and surrounding areas;
  - undertaking preliminary desk-based and site-based appraisals and surveys;
  - considering the construction, operation and decommissioning of the Wylfa Newydd Project proposals and their potential to cause environmental effects; and
  - submitting a request for a Scoping Opinion from the Planning Inspectorate, accompanied by a Scoping Report in May 2016 [RD2] and then by an Addendum to the Scoping Report in May 2017 [RD3].
- 1.3.4 A Scoping Opinion [RD4] was received from the Planning Inspectorate in June 2016, supplemented by a further Scoping Opinion in response to the Addendum to the Scoping Report, received in June 2017 [RD5]. Those opinions inform the approach to the EIA.

- 1.3.5 The Addendum to the Scoping Report covered the requirements of both the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended (the EIA Regulations) and the Marine Works (Environmental Impact Assessment) Regulations 2007.
- 1.3.6 In this volume the chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) provides an overview of material issues raised in the Scoping Opinion and identifies how these have been considered within this Environmental Statement.

#### 1.4 Environmental assessment

## Describing existing environmental conditions

- 1.4.1 As part of the EIA process, the existing environmental conditions that may be affected by the Wylfa Newydd Project have been identified. This provides a 'baseline' against which changes potentially caused by the development can be compared.
- 1.4.2 Establishing the environmental baseline for the Wylfa Newydd Project involved identifying both the present and likely future state of the environment (known as the 'future baseline') for a scenario in which the Wylfa Newydd Project does not proceed. The future baseline takes into account predicted changes from natural events and trends; and human activities not related to the Wylfa Newydd Project.
- 1.4.3 For traffic-related effects, which are assessed on a project-wide basis in volume C (Application Reference Numbers: 6.3.1 to 6.3.7), the traffic model has identified future baseline conditions in the following assessment years:
  - The opening year of the A5025 Off-line Highway Improvements (2020);
  - Peak construction (2023); and
  - Peak operation (2033).
- 1.4.4 These future baseline years were identified on the basis of an assumed programme for DCO examination, and although there is now slippage in this programme, it does not affect the conclusions of the assessment presented in this ES. The future baseline years in the traffic model take into account both background trends in traffic growth and specific increases in traffic expected to result from identified third-party projects (known as committed developments).
- 1.4.5 Assessment years vary between individual developments because they would each be constructed, operated and decommissioned at different times. An overall construction timeline is provided in chapter A2 (project overview and introduction to the developments) (Application Reference Number: 6.1.2), and further details of the construction, operation and decommissioning of each of the developments are provided in the proposed development chapters D1 (Application Reference Number: 6.4.1), E1 (Application Reference Number: 6.5.1), F1 (Application Reference Number: 6.6.1), G1 (Application Reference Number: 6.7.1) and H1 (Application Reference Number: 6.8.1).

- 1.4.6 Some individual topics identify additional assessment years, when particular effects would be expected. For example, the assessment years for landscape and visual effects include the 15<sup>th</sup> year after construction, when landscape planting would be expected to have matured. Similarly, noise and vibration effects are assessed for particular peaks in construction activity. More details on topic-specific assessment methods are set out in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16).
- 1.4.7 Predicted future baseline conditions in the assessment years are often similar to the existing baseline conditions. However, should the future baseline conditions in any assessment year be expected to vary from the existing conditions for any particular reason, that is explained in the topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).
- 1.4.8 For the purposes of the EIA, the baseline year has generally been taken as 2015 unless otherwise indicated for any specific issue reported in this ES.
- 1.4.9 The methods used to identify baseline conditions are specified in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement, and include:
  - desk-based reviews of available data, such as current and historical records and environmental reports;
  - data provided on request from environmental and other organisations;
  - site visits and surveys; and
  - consultation with the public and statutory and non-statutory organisations.
- 1.4.10 A traffic model has been developed for the entire highway network likely to be affected by the construction, operation and decommissioning (where relevant) of the Wylfa Newydd Project. This is discussed further in chapter B3 (Application Reference Number: 6.2.3) of this Environmental Statement.

# Spatial and temporal scope

- 1.4.11 The study area for each environmental topic is dependent on the particular requirements of each topic's own assessment methodology, as described in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement. The extent of each study area, for each topic at each development site, is described in the topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12) of this Environmental Statement. In each case, the study area reflects the geographic area over which relevant significant effects may potentially arise, including any potential for transboundary effects.
- 1.4.12 The temporal scope of the assessment is based on the duration of Wylfa Newydd Project activities, through construction, operation and decommissioning. For a number of topics, assessments are linked to particular years within the Wylfa Newydd Project programme, for example, the peak construction year, peak operation, or the future year when landscape planting would have matured. Where appropriate, further details of the

assessment years are described in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement.

## Rochdale Envelope and worst case scenario

- 1.4.13 The EIA for the Wylfa Newydd Project uses what is termed as a 'Rochdale Envelope' or parameter approach. This approach, established by UK planning case law, involves broadly defining the project (or elements of it) but limiting it by a number of clearly defined, fixed parameters.
- 1.4.14 Paragraphs 109 to 113 of the Department for Communities and Local Government's *Planning Act 2008: Guidance on the Pre-application Process* [RD6] relate to flexibility and the 'Rochdale Envelope'.
  - "It is expected that draft orders submitted will generally closely reflect the actual final development. However, there may be times where a degree of flexibility is required..." (Paragraph 110).
  - "The principles of the Rochdale Envelope are that where there are clear reasons why it would not be possible to define a project fully in the short term (thereby delaying significantly submission of an application), then an applicant should be afforded a degree of flexibility, within clearly defined and reasonable parameters. These parameters should be no greater than the minimum range required to deliver the project effectively and applicants will have to justify these parameters to the Secretary of State..." (Paragraph 111).
  - "The use of the Rochdale Envelope approach does not remove the onus on applicants to submit as detailed as possible project proposals in their application and it should certainly not be an excuse for an unnecessary degree of flexibility". (Paragraph 112).
- 1.4.15 The approach is frequently used in EIAs, and both the Overarching National Policy Statement for Energy (EN-1) [RD7] and the Planning Inspectorate's Advice note nine: Rochdale Envelope [RD8] outline the approach under which design uncertainty can be assessed in accordance with the requirements of the EIA Regulations by using a Rochdale Envelope approach
- 1.4.16 The Planning Inspectorates' Advice note nine: Rochdale Envelope [RD8] states that the application needs to include 'sufficient information to enable 'the main,' or the 'likely significant' effects on the environment to be assessed...., and the mitigation measures to be described. Any proposed scheme parameters should therefore not be so wide ranging as to represent effectively different schemes'.
- 1.4.17 In defining a Rochdale Envelope, a series of parameters of a project (in terms of activities to be undertaken and the spatial and temporal scope of the proposed development) are established to be used for the assessment of significant effects. The maximum extents of these parameters are often termed the 'worst case scenario'. The detailed design and construction methodology of a project can subsequently be modified within this parameter 'envelope' without rendering its EIA inadequate.

- 1.4.18 A parameter based approach is deemed appropriate for the construction and operation of the Wylfa Newydd Project in order to provide sufficient flexibility to manage the inevitable change through the Generic Design Assessment (GDA), the Nuclear Site Licence and design development processes. Maximum and minimum parameters (such as limits on height and location of buildings) would be set by the DCO requirements in order to keep the development within a defined envelope. The parameters are constrained within the following:
  - Order Limit Plans: these identify the Order Limits for the development to be authorised
  - Works Plans (Application Reference Number: 2.3): these identify the limits of deviation for, and location of each work package (or 'work area').
  - Schedule of Works: this outlines the works that could theoretically take place within each works area, as identified on the Works Plans.
  - Parameter Plans: these identify the zones within which buildings, structures, and works identified in 'parameter tables' must be located. They provide an additional layer of restriction by further controlling where construction of certain elements can take place within the limits of deviation in the Works Plans.
  - Parameter tables: these identify maximum and minimum building dimensions and where relevant final construction platform levels, dredging depths and volumes.
- 1.4.19 The Construction Method Statement (for the Wylfa Newydd Development Area) and the construction section of E1 (Application Reference Number: 6.5.1), F1 (Application Reference Number: 6.6.1), G1 (Application Reference Number: 6.7.1) and H1 (Application Reference Number: 6.8.1) provide the basis for the assessment of the construction of the Wylfa Newydd Project. Parameters are set by fixed limits (e.g. working hours) or maximum limits (e.g. HGV movements per hour), and where relevant, assumptions are made in order to establish a worst case.
- 1.4.20 For the Wylfa Newydd Project, the parameters are set out in the Proposed Development chapters D1 (Application Reference Number: 6.4.1), E1 (Application Reference Number: 6.5.1), F1 (Application Reference Number: 6.6.1), G1 (Application Reference Number: 6.7.1) and H1 (Application Reference Number: 6.8.1). Any assumptions on construction methodology are set out in the relevant topic assessment chapters. The EIA has been based on these parameters and assumptions.
- 1.4.21 Some elements of the Wylfa Newydd Project are largely fixed for consenting purposes (e.g. the location of the nuclear reactors), while other buildings, structures, works and construction methodology are restricted through application of the parameters. These parameters have been informed by the potential to create adverse environmental effects. For example, for those buildings where the location is sensitive in terms of EIA, e.g. because there is a stack emission on the building, the location has been limited to relatively modest limits of deviation.

- 1.4.22 For each assessment topic, the sensitivity to change within the parameters may vary. For example, variation in the proposed height of a building may alter an effect on visual amenity, but it would not alter land take. Where the identified parameters have a bearing on the assessment of effects, a worst case scenario has been assessed.
- 1.4.23 In order to identify a worst case scenario, each discipline has examined the parameters to identify key determining factors for the assessment and, where required, carried out sensitivity testing in order to support a worst case assessment.

# **Uncertainty and limitations**

- 1.4.24 Uncertainty with respect to the impact of design modifications on the assessment of environmental effects is addressed through the Rochdale Envelope approach described above. To identify the worst case to be assessed, where relevant, individual topics carry out some sensitivity testing based on potential design changes within the Rochdale Envelope. In addition, where appropriate, sensitivity testing is carried out on model input data, for example by testing different meteorological data sets as inputs to the air quality model.
- 1.4.25 Any limitations with respect to each topic assessment are outlined in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16).
- 1.4.26 Decommissioning of the Wylfa Newydd Power Station and Off-Site Power Station Facilities has been assessed at a qualitative level only as decommissioning activities are not anticipated to commence for another 60 years or more and would require a further EIA under the Nuclear Reactors (Environmental Impact Assessment for decommissioning) Regulations 1999 (as amended). Baseline conditions and the technologies of that time would be used to assess the decommissioning process.
- 1.4.27 It is not intended that the A5025 Off-line Highway Improvements would be decommissioned and hence the scope of the EIA for that development excludes decommissioning. Decommissioning of the other Associated Developments has been considered. Chapter A2 (Application Reference Number: 6.1.2) explains what these Associated Developments are.

#### Prediction and evaluation of effects

- 1.4.28 Prediction and evaluation of effects is a key step in the EIA process. It is the process of bringing together an understanding of project specifications and the baseline environmental characteristics to ensure that all potentially significant environmental effects of the Wylfa Newydd Project, whether beneficial (positive) or adverse (negative), are identified and assessed.
- 1.4.29 The potential effects are assessed across all stages of the Wylfa Newydd Project's lifecycle, i.e. construction, operation and decommissioning (subject to the limitations identified above). Effects are assessed against the relevant future baseline conditions, as described under the heading 'describing existing environmental conditions' earlier in this chapter.

1.4.30 Some effects are also assessed against particular standards or limits, where they exist, for example in relation to air quality and water quality.

## Significance of environmental effects

- 1.4.31 EIA is based on determining the significance of an effect, having regard for the value or sensitivity of the baseline conditions and the magnitude of the potential change or impact. The general process followed in this EIA is described below. Where variations in approach are appropriate for particular environmental topics, those variations are explained in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement.
- 1.4.32 Effects may be direct or indirect; secondary; cumulative; adverse or beneficial; permanent or temporary; and short-, medium- or long-term. These terms are used to describe the nature of effects, to provide the context within which the significance of effects can be understood. The criteria used to differentiate between temporary and permanent, and between short, medium and long-term effects, vary between topics and are explained, where relevant, in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement.
- 1.4.33 The EIA Regulations require that an EIA describes the likely significant effects of a project on the environment; however, they do not provide a specific definition of significance. The Institute of Environmental Management and Assessment (IEMA) [RD10] suggests that the assessment of significance should be based on the characteristics of the effect and the sensitivity of the receptor, and notes that the evaluation of significance may be based upon one or more of the following:
  - comparison with regulations or standards;
  - reference to criteria such as protected species, protected sites, landscapes, etc.;
  - consultation with stakeholders and decision makers;
  - compliance with policy (or plan) objectives;
  - comparison with experience on similar projects elsewhere; and
  - experience and professional judgement of the specialist assessor.
- 1.4.34 The IEMA Special Report The State of EIA Practice in the UK [RD9] notes that EIA documentation does not tend to discuss significance in absolute terms; instead, assessment findings are often defined with reference to different classes of significance. The IEMA states that this approach is considered good practice, as it aids communication of the scale of the effect by introducing a classification. It is also important to provide clarity in the assessment of where an effect is not considered significant.
- 1.4.35 For the Wylfa Newydd Project, the significance of effects reported in this Environmental Statement has been established with reference to the following:
  - the importance or value of affected resources;

- the number and sensitivity of affected receptors;
- the magnitude of change from the baseline condition;
- the duration, frequency and extent of effect; and
- the reversibility of effect.

#### Value or sensitivity of receptors

- 1.4.36 The baseline studies for each topic have enabled identification of receptors that could potentially be affected and for each receptor to be assigned a value or sensitivity.
- 1.4.37 Table B1-1 sets out generic criteria for determining the value or sensitivity of receptors. These have been used as guidance for determining topic-specific criteria. For some receptors, the criteria in table B1-1 may suggest that more than one value may apply. A precautionary approach has therefore been taken in applying these criteria for each topic assessment, using the professional judgement of the expert undertaking the assessment. More details of the specific criteria used for each environmental topic are provided in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16).

Table B1-1 General criteria for determining the value/sensitivity of receptors

| Value/sensitivity | General criteria   |
|-------------------|--|
| High              | Of value, importance or rarity on a national scale, and with very limited potential for substitution; and/or Very sensitive to change, or has little capacity to accommodate a change. |
| Medium            | Of value, importance or rarity on a regional scale, and with limited potential for substitution; and/or Moderate sensitivity to change, or moderate capacity to accommodate a change.  |
| Low               | Of value, importance or rarity on a local scale; and/or Not particularly sensitive to change, or has considerable capacity to accommodate a change.                                    |
| Negligible        | Of value, importance or rarity on a very local scale; and/or Not sensitive to change, or has very considerable capacity to accommodate a change.                                       |

# Magnitude of change

1.4.38 The magnitude of change, or 'impact', measures the scale or extent of the change from the baseline conditions, irrespective of the value or sensitivity of the affected receptor(s). In determining magnitude, the extent of the physical change is considered in the context of other factors such as existing long-term trends. The magnitude of some changes will alter over time, and, in such cases, the assessment has taken account of this temporal variation.

1.4.39 Table B1-2 shows the generic criteria used in the Wylfa Newydd Project EIA to determine magnitude of change, whether beneficial or adverse.

Table B1-2 General criteria for determining magnitude of change

| Magnitude  | General criteria  |
|------------|---|
| Large      | Loss of resource or quality and integrity of resource; severe damage to key characteristics, features or elements; or  Large scale or major improvement of resources quality; extensive restoration or enhancement; major improvement of attribute quality.   |
| Medium     | Loss of resource, but not adversely affecting its integrity; partial loss of or damage to key characteristics, features or elements; or  Benefit to, or addition of, key characteristics, features or elements; improvements of attribute quality.  |
| Small      | Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one or more key characteristic, feature or element; or Minor benefit to, or addition of, one or more key characteristic, feature or element; some beneficial effect on attribute or a reduced risk of negative effect occurring. |
| Negligible | Very minor loss or detrimental alteration to one or more characteristic, feature or element; or Very minor benefit to, or positive addition of, one or more characteristic, feature or element.   |

#### **Determination of significance**

- 1.4.40 For the Wylfa Newydd Project EIA, the general approach adopted is to consider that an environmental effect may be significant if, in the professional judgement of the expert undertaking the assessment, it would meet at least one of the following criteria:
  - it leads to an exceedance of defined guidelines or widely recognised levels of acceptable change (which will be different for different topics within the EIA);
  - it is likely that the Examiner would reasonably consider applying a requirement to the development consent or other legal agreement to require specific mitigation to reduce or overcome the effect;
  - it threatens or enhances the viability or integrity of a receptor or receptor group of concern; or
  - it is likely to be material to the ultimate decision about whether or not the application for development consent should be approved.

- 1.4.41 For the Wylfa Newydd Project EIA, the assessment of the degree of significance of an effect is determined through professional judgement, guided where appropriate by the matrix shown in figure B1-2, developed from IEMA guidance [RD10]. The degree of significance is influenced by the value or sensitivity of a receptor and the magnitude of the predicted change from the baseline condition. Degrees of significance are described on a scale from 'negligible' to 'major', with intermediate terms of 'minor' and 'moderate'.
- 1.4.42 The assessments of both magnitude of change and significance of effect use quantitative information where appropriate. Information on the specific criteria used is provided in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement.

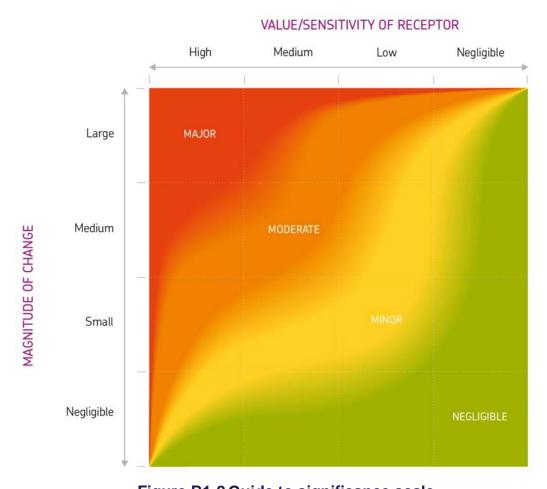


Figure B1-2 Guide to significance scale

1.4.43 Figure B1-2 is used as a guide only, with the principal basis for the assessment being the professional judgement of the expert undertaking the assessment. Therefore, it is possible to moderate the significance rating up or down the scale where the assessor considers it to be appropriate, in accordance with their professional judgement, bearing in mind also the significance criteria listed above and any relevant quantitative criteria. Any such modification is explained, together with reasons, in the individual topic assessment chapters reported in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12) of this Environmental Statement.

- 1.4.44 Where there are deviations from this approach (e.g. to have regard for published industry guidance for specific topics or parameters), this is explained in the relevant methodology descriptions presented in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16) of this Environmental Statement.
- 1.4.45 For the purposes of the Wylfa Newydd Project EIA, an effect is considered to be 'significant' with respect to the EIA Regulations if it is identified to have 'major' or 'moderate' degree of significance, having regard for the approach set out in this section, above.
- 1.4.46 Volume G (Application Reference Numbers: 6.7.1 to 6.7.48) of this Environmental Statement relates to the A5025 Off-line Highway Improvements. The methodology applied in that volume is slightly different from the other volumes because specific guidance for highways projects has been followed. This is explained in more detail in each of the affected topic chapters in volume B (Application Reference Numbers: 6.2.1 to 6.2.16).

## Mitigation

- 1.4.47 The term 'mitigation' is used to describe measures used to prevent or reduce adverse environmental effects.
- 1.4.48 Three types of mitigation have been considered in the Wylfa Newydd Project EIA as follows: embedded mitigation, good practice mitigation and additional mitigation.
- 1.4.49 The term 'embedded mitigation' includes all those measures to avoid or reduce environmental effects that are directly incorporated into the design of the development (for example, the provision of a Park and Ride to reduce the number of potential vehicle movements along the A5025).
- 1.4.50 'Good practice mitigation' contains measures that would occur with or without input from EIA feeding into the design process (for example, mitigation that represents established industry practice or would be undertaken to meet existing legal compliance). These measures would be secured legally through the DCO, Marine Licence or other legal agreement.
- 1.4.51 'Additional mitigation' measures are measures that have been identified through the EIA process to further reduce environmental effects (for example, translocation of fauna to a safe area). Additional mitigation would be secured as DCO requirements or other statutory agreements.
- 1.4.52 The initial assessments of magnitude of change and potential significance of effects reported within the assessment of effects section of each topic chapter take account of embedded mitigation and good practice mitigation.
- 1.4.53 Good practice mitigation measures, such as mitigating noisy activities by conducting all construction work in accordance with good practice guidance, would in this instance be secured by a DCO requirement stating that Horizon shall comply with the Wylfa Newydd Code of Construction Practice (CoCP) (Application Reference Number: 8.6) that sets out a noise management strategy including measures such as switching off plant and equipment when

- it is not in use for longer periods of time, the use of temporary noise screens around particularly noisy activities, and regular plant maintenance.
- 1.4.54 Where a commitment has been made by Horizon to implement additional mitigation to reduce potentially significant effects identified from the initial assessment, a further iteration to assess significance of effects is carried out and the remaining effects (known as 'residual effects') are evaluated. Additional mitigation relating to construction activities, for example the management protocols for the protection of marine mammals from noise disturbance, will be incorporated within the Wylfa Newydd CoCP (Application Reference Number: 8.6), and secured as described above. In addition to the Wylfa Newydd CoCP (Application Reference Number: 8.6), discrete additional mitigation measures, such as the provision of noise insulation at certain residential properties would be subject to commitment by a DCO requirement or a Section 106 agreement.
- 1.4.55 Residual effects are those effects that remain after all three forms of mitigation have been factored into the assessment. This approach allows topic assessments to be based on a realistic scenario as a starting point before identifying the need for further mitigation. This approach reflects IEMA guidance [RD11], which describes 'primary' mitigation (described as 'embedded' mitigation in this Environmental Statement), 'secondary' mitigation (described as 'additional mitigation' in this Environmental Statement) and 'tertiary' mitigation (described as 'good practice' mitigation in this Environmental Statement.
- 1.4.56 Figure B1-3 illustrates the relationship between the three types of mitigation and how they are factored into the assessment process.

| Wylfa Newydd Power Station<br>Development Consent Order | Chapter B1 Introduction to the assessment process |
|---|---|
|   |   |
|   |   |
|   |   |
|   |   |
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Additional Residual mitigation Significant measures to effects reduce significant adverse effects Design change Significant embedded to reduce adverse effects significant adverse effects Additional mitigation No Significant measures to Significant effects adverse effects overcome Design change significant effects Initial assessment of embedded to the development overcome significant with embedded and advance effects good practice mitigation incorporated

Figure B1-3 Embedded, good practice and additional mitigation

| Wylfa N | lewydd  | Power  | Station |
|---------|---------|--------|---------|
| Develo  | pment C | consen | t Order |

Chapter B1 Introduction to the assessment process

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- 1.4.57 EIA guidance [RD10] considers mitigation as a hierarchy of measures ranging from prevention of environmental effects by avoidance, to measures to provide opportunities for environmental enhancement:
  - avoidance;
  - reduction;
  - compensation;
  - remediation; and
  - enhancement.
- 1.4.58 For the purposes of this EIA, compensation measures are not regarded as true mitigation measures, because they do not avoid or reduce effects, but they may be considered as a last resort to offset effects that cannot be mitigated in other ways.

#### **Cumulative effects**

- 1.4.59 Cumulative effects can potentially occur when the effects of multiple developments within one project, or of multiple projects, combine to increase the effects experienced by a receptor.
- 1.4.60 Cumulative effects are distinguished from combined topic effects which are defined for the Wylfa Newydd Project EIA as follows:
  - Combined topic effects (otherwise known as 'intra-development effects'): when a single receptor is affected by more than one effect from the same development, for example, noise, air and visual effects from the Wylfa Newydd Power Station all affecting the same residential receptor.
- 1.4.61 Combined topic effects are reported in chapters C7 (Application Reference Numbers: 6.3.7), D16 (Application Reference Numbers: 6.4.16), E12 (Application Reference Numbers: 6.5.12), F12 (Application Reference Numbers: 6.6.12), G12 (Application Reference Numbers: 6.7.12) and H12 (Application Reference Numbers: 6.8.12).
- 1.4.62 Where combined topic effects result from multiple individual effects relating to just one topic, an assessment of the significance of the combined topic effect is provided in the chapters noted above, and the approach to assessing that significance uses the same criteria as are used for the individual effects in the relevant topic chapter. However, where combined topic effects are the result of effects reported in different topic chapters, the assessment is descriptive only.
- 1.4.63 For the Wylfa Newydd Project, the following terminology has been adopted to describe cumulative effects:
  - Intra-project cumulative effects: when a single receptor is affected by impacts from different component developments of the Wylfa Newydd Project, for example, a receptor affected by the A5025 improvements as well as the Wylfa Newydd Power Station.

- Inter-project cumulative effects: when a single receptor is affected by
  effects from more than one project, for example, a receptor affected by
  the Wylfa Newydd Project and other infrastructure development projects
  for which planning consent is currently being sought by proponents other
  than Horizon.
- 1.4.64 The Wylfa Newydd Project EIA has regard for the potential for both additive and combined (or interactive) cumulative effects to occur on environmental resources and receptors. These terms are explained below.
  - Additive effects: when a receptor experiences two effects of the same type, which add up to a larger and potentially more significant effect.
  - Combined effects: when a receptor experiences two effects of different types (for example a noise effect and a visual effect). The combined effect may be greater than the simple sum of its parts.
- 1.4.65 With both additive and combined effects, individual effects on a receptor may not be significant when considered in isolation, but when considered together with other effects on the receptor, the resultant cumulative effect could be significant.
- 1.4.66 The cumulative effects assessment reported in volume I (Application Reference Numbers: 6.4.56 to 6.9.14) of this Environmental Statement considers additive and combined effects from both intra-project and interproject interactions.

#### Form of Environmental Statement

- 1.4.67 There is no statutory provision as to the form of an Environmental Statement. However, it must contain the types of information specified in Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and in Schedule 3 of the Marine Works (Environmental Impact Assessment) Regulations 2007, to the extent reasonably required to assess the effects of the development and to which the applicant can reasonably be required to compile.
- 1.4.68 Table B1-3 lists the information to be included in an Environmental Statement as is reasonably required and where it can be found in this document.

Table B1-3 Information to be included in the Environmental Statement

#### **Location in this Environmental** EIA Regulations: Schedule 4, Part 1 Statement A2 "17. Description of the [Wylfa • Chapters (Application Newydd Project] Reference Number: 6.1.2), D1 (Application Reference Number: (a) a description of the physical 6.4.1), E1 (Application Reference characteristics whole of the Number: 6.5.1), F1 (Application development and the land-use Reference Number: 6.6.1), G1 requirements during the (Application Reference Number: construction and operational 6.7.1) and H1 (Application phases; Reference Number: 6.8.1) describe the Wylfa Newydd

#### EIA Regulations: Schedule 4, Part 1

- (b) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;
- (c) an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc) resulting from the operation of the proposed development."
- "18. An outline of the main alternatives studied ... and an indication of the main reasons for the applicant's choice, taking into account the environmental effects."

"19. A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including archaeological architectural and heritage, landscape and the interrelationship between the above factors."

- "20. A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:
- (a) the existence of the development;
- (b) the use of natural resources;

# Location in this Environmental Statement

Project and the developments within the Wylfa Newydd Project.

- Chapter C6 (waste and materials and management) (Application Reference Number: 6.3.6).
- Emissions are identified in topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).

Alternatives and design evolution chapters A2 (Application Reference Number: 6.1.2), D2 (Application Number: 6.4.2), Reference Reference Number: (Application 6.5.2), F2 (Application Reference Number: 6.6.2), G2 (Application Reference Number: 6.7.2) and H2 (Application Reference Number: 6.8.2).

Baseline information is provided in the topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).

The significance of effects is described in the topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12) and in the cumulative effects assessment in volume I (Application Reference Numbers: 6.9.1 to 6.9.14).

The forecasting methods used are described in volume B (Application Reference Numbers: 6.2.1 to 6.2.16).

| EIA Regulations: Schedule 4, Part 1   | Location in this Environmental<br>Statement  |
|---|--|
| (c) the emission of pollutants, the creation of nuisances and the elimination of waste, and the description by the applicant of the forecasting methods used to assess the effects on the environment." |  |
| "21. A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment."  | Additional mitigation is described in the topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12). |
| "22. A Non-Technical Summary of<br>the information provided under<br>paragraphs 1 to 5 of this Part."   | A Non-Technical Summary of this<br>Environmental Statement is available<br>(Application Reference Number:<br>6.11).          |
| "23. An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information."  | Limitations are described in chapters B2 to B16 (Application Reference Numbers: 6.2.2 to 6.2.16).                            |

- 1.4.69 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 came into effect for certain developments in May 2017. The 2017 EIA Regulations require significant effects to be described and assessed in relation to an amended list of environmental factors, as follows:
  - Population and human health;
  - Biodiversity;
  - Land, soil, water, air and climate;
  - Material assets, cultural heritage and the landscape; and
  - The interaction between these factors.
- 1.4.70 The 2017 EIA Regulations also require the assessment to include expected significant effects arising from the vulnerability of the proposed development to major accidents or disasters.
- 1.4.71 Whilst the 2017 EIA Regulations do not apply to the EIA for the Wylfa Newydd Project, the requirements of the 2017 EIA Regulations with respect to the assessments of significant effects have been taken into account, as follows:
  - Effects on population and, where applicable, human health have been assessed within the relative topic assessments for socio-economics, air quality, noise and vibration, public access and recreation, soils and geology, surface water and groundwater, radiological effects, and shipping and navigation in volumes C to H (Application Reference

Numbers: 6.3.1 to 6.8.12). In addition, a Health Impact Assessment (Application Reference Number: 8.19), Equality Impact Assessment (Application Reference Number: 8.22) and WLIA (Application Reference Number: 8.21) have been carried out and are reported in separate documents that form part of the DCO application for the Wylfa Newydd Project.

- Effects on biodiversity have been assessed within the relative topic assessments for terrestrial and freshwater ecology and the marine environment as well as, where applicable, in the topic assessments for air quality and surface water and groundwater in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).
- Effects on land, soil, water and air have been assessed within the topic assessments for soils and geology, surface water and groundwater and air quality in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).
- The effects of climate change have been considered in the assessments where applicable, for example in the surface water and groundwater assessment chapters in volumes D to H (Application Reference Numbers: 6.4.1 to 6.8.12).
- Effects on material assets, cultural heritage and the landscape have been assessed within the topic assessments for socio-economics, cultural heritage and landscape and visual in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).
- The potential effects on the environment associated with the potential for major accidents and/or disasters have been considered in the radiological effects assessment chapter in volume D (Application Reference Number: 6.4.14).
- The interactions between these factors have been described in the combined topic effects chapters at the end of volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12).

# Transboundary effects

- 1.4.72 The assessment of transboundary effects has been guided by the Planning Inspectorate's *Advice Note Twelve* [RD12]. The 2016 Scoping Opinion provided guidance on transboundary effects with regard to both the EIA and the Shadow Habitats Regulations Assessment (Application Reference Number: 5.2) of the Wylfa Newydd Project. The assessment also has regard to advice received following consultation managed by the Planning Inspectorate in support of the Secretary of State's screening of transboundary issues. Responses to this consultation are published on the Planning Inspectorate's website at:
  - <a href="https://infrastructure.planninginspectorate.gov.uk/projects/wales/wylfa-newydd-nuclear-power-station/?ipcsection=docs">https://infrastructure.planninginspectorate.gov.uk/projects/wales/wylfa-newydd-nuclear-power-station/?ipcsection=docs</a>

1.4.73 An assessment of potential transboundary effects (i.e. effects that would potentially occur outside of the United Kingdom) associated with the Wylfa Newydd Project is presented within the assessment chapters reported in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.12) of this Environmental Statement, where applicable. Appendix B1-1 (Transboundary Effects Assessment) (Application Reference Number: 6.2.17) to this Environmental Statement brings this information together and presents a consolidated summary.

## Climate change

1.4.74 Climate change has been considered within this Environmental Statement with regard to design resilience and the effects of climate change on the project; consideration for how the EIA takes account of climate change and 'future baseline' when assessing effects caused by the development; and also with regard to effects of the Wylfa Newydd Project on processes that may contribute to climate change.

#### Resilience

- 1.4.75 The Overarching National Policy Statement for Energy (EN-1) [RD7] states that new energy infrastructure needs to be sufficiently resilient against the possible impacts of climate change. Otherwise, it may not be able to satisfy energy needs.
- 1.4.76 The design has considered predicted climate change trends up to the year 2183 (the expected end of spent fuel storage and decommissioning). The site platform and the Cooling Water System have been designed so as not to be affected by sea level rise. Other climate change features that have been considered during the design of the Wylfa Newydd Project are the likelihood of drought; sea temperature changes; increase in precipitation; and changes in wind speed, air temperature and humidity.
- 1.4.77 The Environment Agency informed the UK Government's Strategic Siting Assessment [RD13] which concluded that, throughout its lifetime, the WNDA Development and Off-Site Power Station Facilities could be protected from flood risk originating from climate change, as well as other causes, and these have been considered in the design described in chapters D1 (Application Reference Numbers: 6.4.1) and E1 (Application Reference Numbers: 6.5.1) of this Environmental Statement.

#### How climate change has been accounted for

- 1.4.78 The effects of climate change on the evolution of baseline conditions have been taken into account, where appropriate, in the EIA.
- 1.4.79 All of the topic assessment chapters that consider climate change have referred to the UK Climate Impacts Programme predictions [RD14], which state that the future climate is likely to consist of wetter winters and drier summers. Due to the coastal location of the Wylfa Newydd Power Station, sea-level rise and coastal erosion are key concerns.

- 1.4.80 Coastal erosion is considered in the coastal processes and geomorphology topic in this Environmental Statement, with erosion rates given as up to 0.2m per year, whilst sea level rise projections are taken from UKCP09 with a projected sea level rise of 488mm by 2090; this rise is not expected to affect the Wylfa Newydd Project directly during its lifetime. However, the surface water and groundwater assessment in this Environmental Statement considers an indirect effect, making reference to sea level rise as a cause for saline intrusion in coastal aquifers.
- 1.4.81 The soils and geology assessment has considered the potential effects on the Agricultural Land Classification of soils. For some soils, wetter winters may cause flooding or wetness limitations on Agricultural Land Classification grades to increase, conversely hotter summers may have a beneficial effect in these areas. Hotter summers may adversely affect the Agricultural Land Classification grade of some soils as it could increase the droughtiness (dryness) of soils.
- 1.4.82 The surface water and groundwater assessment has considered the potential for drier summers to lead to a reduced moisture content of soils, resulting in a shortened winter groundwater recharge season, potentially leading to a longterm decline in groundwater storage. This could potentially lead to droughts or floods.
- 1.4.83 The terrestrial and freshwater ecology assessment has considered the fact that there are likely to be more intense storms and severe droughts in future, which could cause changes in land use, ultimately impacting on the terrestrial and freshwater receptor resources.
- 1.4.84 The marine environment assessment has considered climate change effects on marine ecology. Sea surface temperatures are likely to increase, which would subsequently lead to changes in species distribution and migratory patterns. Spawning and lifecycle characteristics are likely to be affected, along with the physico-chemical parameters within the marine environment. Change in climate is expected to impact on weather patterns. This has been taken into account in air quality modelling and how the future baseline will evolve. This is discussed in more detail in chapter B5 (Application Reference Number: 6.2.5) of this Environmental Statement.

### Effects of the Wylfa Newydd Project on climate change

1.4.85 The predicted effects of the Wylfa Newydd Project on climate change are detailed in the Sustainability Statement (Application Reference Number: 8.17) accompanying the application for development consent with this Environmental Statement. The Sustainability Statement includes information about predicted emissions and energy efficiency measures.

### Welsh Language

1.4.86 Environmental effects could have indirect effects on Welsh language and culture. These effects are assessed in the WLIA (Application Reference Number: 8.21), presented alongside this Environmental Statement as standalone report accompanying the DCO.

- 1.4.87 The WLIA identifies that the balance between Welsh and non-Welsh speakers may be affected if a deterioration takes place in the quality of the built and natural environment or in the existing levels of general amenity, affecting quality of life. Households with greater spending power could decide to out-migrate if the amenity of the local area deteriorated. Given that a high percentage (64.4%) of the population of the WLIA's Local Area of Influence were Welsh-speakers in 2011, any out-migration of the existing population would have an adverse effect on Welsh language and culture.
- 1.4.88 As noted in chapter A1 (introduction) (Application Reference Numbers: 6.1.1), there has been a commitment from Horizon to have the Welsh language as a 'golden thread' that runs throughout the development and implementation of Wylfa Newydd Project. In keeping with this commitment, the assessment chapters presented in this Environmental Statement discuss where any relevant environmental effects identified may have particular implications for Welsh language and culture.

# 1.5 Qualifications of specialists

1.5.1 The EIA and the other assessments referred to above have been carried out by qualified specialists, as set out in table B1-4

Table B1-4 Specialist qualifications

| Table B1-4 Specialist qualifications |            |  |  |
|--------------------------------------|------------|--|--|
| Initials                             | Specialism | University qualifications  | Professional qualifications  |
| AD                                   | EIA        | BSc Chemistry and MSc Pollution and Environmental Control  | CEnv, MIEMA  |
| AM                                   | EIA        | BSc Biological<br>Sciences and LLM<br>Environmental Law  | CEnv, MIEMA  |
| AS                                   | EIA        | BSc (Hons)<br>Environmental<br>Sciences and Masters<br>of Environmental Law                                      | MPIA   |
| AJ                                   | EIA        | BSc (Hons) Microbiology and MSc Pollution and Environmental Control  |  |
| GM                                   | EIA        | BA Geography and PhD Geomorphology   | FCIWEM, C.WEM, C.Sci C.Env   |
| JG                                   | EIA        | MLPM (Hons)<br>Landscape Planning<br>and Management  | CEnv, CSci, MIEMA,<br>MIEnvSc, Licentiate<br>Member of the<br>Landscape Planning<br>and Management |
| PS                                   | EIA        | BSc (Hons) Environmental Sciences and MSc EIA, EMS and Environmental Auditing                                    | CEnv, MIEMA  |
| RM                                   | EIA        | BSc (Hons)<br>Environmental Biology<br>and PhD Biogeography  |  |
| SW                                   | EIA        | BSc (Hons) Geography, PgDip Water, Energy and Environment, and MA Environmental Impact Assessment and Management | CEnv, MIEMA, CIWEM diploma   |

| Initials | Specialism                      | University<br>qualifications  | Professional qualifications   |
|----------|---------------------------------|---|---|
| SB       | EIA                             | BSc (Hons) Geography<br>and MSc Soils and<br>Environmental<br>Pollution   | CIWEM   |
| SM       | EIA                             | BSc Microbiology, PhD   | MCIWEM, PIEMA   |
| AB       | Coastal processes               | BSc Geography and<br>PhD Geomorphology<br>and Ecology   | CSI, CWEM, CGeog,<br>CEnv, FCIWEM,<br>FRGS, MIEMA   |
| AS       | Radiological issues and waste   | BSc Physiological<br>Sciences   | IOSH Managing Safely  |
| BC       | Health impact assessment        | MSc Health Promotion<br>Sciences; BA hons<br>Social Anthropology  | Member of Faculty of Public Health, AIEMA, Member of International Association for Impact Assessment, Recipient of 2011 Individual Award from International Association for Impact Assessment |
| EC       | Water<br>Framework<br>Directive | BSc (Hons) Marine Biology with Oceanography and MSc Aquatic Resource Management   | CIWEM   |
| GH       | Noise and vibrations            | BSc Environmental Life<br>Science, PgDip<br>Acoustics and Noise<br>Control and MSc<br>Environmental<br>Management                         | Corporate Member Institute of Acoustics, Certificate of Competence in Environmental Noise Management  |
| JT       | Shipping and Navigation         | MEng Civil Engineering  | GMICE   |
| JP       | Equality impact assessment      | BSc (Hons) Regional<br>Science (Economics<br>and Human<br>Geography), PgDip<br>Town and Regional<br>Planning and MA Civic<br>Design and a |   |

| Initials | Specialism                                | University<br>qualifications  | Professional qualifications                                |
|----------|---|---|--|
|          |   | Professional certificate in Management  | quanneations   |
| JD       | Cultural<br>heritage                      | MA (Hons)<br>Archaeology, PgDip<br>Field Archaeology, Pg<br>certificate Archaeology<br>of Standing Buildings          | MCIfA  |
| KY       | Soils and geology                         | BSc (Hons) Marine<br>Geography and MSc<br>Environmental<br>Monitoring   | CEnv, MIEnvSci, CL:AIRE Qualified Person                   |
| NC       | Ecology                                   | BSc (Hons) Zoology<br>and MSc<br>Oceanography   | CEnv, MCIEEM   |
| RW       | Marine<br>eanvironment                    | BSc Marine and<br>Freshwater Biology and<br>MSc Oceanography  | Secretary of Wessex<br>Branch of the Society<br>of Biology |
| RD       | Welsh<br>language<br>impact<br>assessment | BA (Hons) Town<br>Planning  | MRTPI  |
| RP       | Health impact assessment                  | BSc Hon and MA<br>Biological Sciences,<br>Postgraduate Diploma<br>in Legal Practice and<br>Graduate Diploma in<br>Law | Environmental Law  |
| SC       | Conventional waste                        | BSc Joint Honours (Geography and Environmental Sciences) and MSc (Environmental Management and Technology)            | MCIWM  |
| SE       | Welsh<br>language<br>impact<br>assessment | BA (Hons) Geography<br>and<br>MSc Planning Practice<br>and Research   | MRTPI  |
| SO       | Socio-<br>economics                       | BA (Mod) Natural<br>Science and MSc<br>Ecological Economics   | MCIWEM   |

| Initials | Specialism                    | University<br>qualifications  | Professional qualifications                |
|----------|-------------------------------|---|--|
| SM       | Traffic and transport         | MSc Transport Planning and Management   | MCIHT                                      |
| SH       | Surface water and groundwater | BSc Geography and PhD Hydrogeology  | FGS, CGeol, MCIWEM, SiIC, QP (CL:AIRE CoP) |
| SK       | Landscape<br>and visual       | BA Landscape<br>Architecture, Dip<br>Landscape<br>Architecture  | CMLI                                       |
| SB       | Air quality                   | BSc (Hons) Physics<br>with Environmental<br>Science and MSc<br>Environmental<br>Technology  | MIEnvSc and MIAQM                          |
| VC       | Public access and recreation  | BSc Environmental Science, PgDip Legal Practice (LPC), PgDip Law (CPE), LLM Commercial Property Law, LLM Environmental Law and Conservation | AIEMA                                      |

# 1.6 References

Table B1-5 Schedule of references

|     | Table B1-5 Schedule of references  |
|-----|--|
| ID  | Reference  |
| RD1 | International Association for Impact Assessment in association with the Institute of Environmental Assessment. 1996. <i>Principles of Environmental Impact Assessment Best Practice.</i> [Online]. [Accessed 20 December 2017]. Available from: <a href="https://www.iaia.org/uploads/pdf/principlesEA_1.pdf">https://www.iaia.org/uploads/pdf/principlesEA_1.pdf</a>  |
| RD2 | Horizon Nuclear Power Ltd. 2016. Wylfa Newydd Generating Station Environmental Impact Assessment Scoping Report. [Online]. [Accessed: 7 April 2017]. Available from: <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000263-Applicant's%20scoping%20report.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000263-Applicant's%20scoping%20report.pdf</a> |
| RD3 | Horizon Nuclear Power Ltd. 2017. Addendum to the Environmental Impact Assessment Scoping Report. [Online]. [Accessed: 26 October 2017]. Available from: <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000895-Scoping%20Report%20addendum.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000895-Scoping%20Report%20addendum.pdf</a>                    |
| RD4 | Planning Inspectorate. 2016. SCOPING OPINION Proposed Wylfa Newydd Generating Station. [Online]. [Accessed: 7 April 2017]. Available from: <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000390-Scoping%20Opinion.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000390-Scoping%20Opinion.pdf</a>   |
| RD5 | Planning Inspectorate. 2017. SCOPING OPINION Proposed Wylfa Newydd Project. [Online]. [Accessed: 26 June 2017]. Available from: <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000888-Scoping%20Opinion.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/EN010007-000888-Scoping%20Opinion.pdf</a>  |
| RD6 | Department for Communities and Local Government. 2015. <i>Planning Act 2008: Guidance on the Pre-application Process</i> . [Online]. [Accessed: 25 October 2017]. Available from: <a href="https://www.gov.uk/government/publications/guidance-on-the-pre-application-process-for-major-infrastructure-projects">https://www.gov.uk/government/publications/guidance-on-the-pre-application-process-for-major-infrastructure-projects</a> .                                      |
| RD7 | Department of Energy and Climate Change. 2011. Overarching National Policy Statement for Energy (EN-1). London: The Stationery Office.   |
| RD8 | Planning Inspectorate. 2012. Advice note nine: Rochdale Envelope. [Online]. [Accessed: 7 April 2017]. Available from: <a href="http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/05/Advice-note-9Rochdale-envelope-web.pdf">http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/05/Advice-note-9Rochdale-envelope-web.pdf</a>  |

| ID   | Reference   |
|------|---|
| RD9  | Institute of Environmental Management and Assessment (IEMA).<br>2011. Special Report – The State of Environmental Impact<br>Assessment Practice in the UK. Lincoln: IEMA  |
| RD10 | Institute of Environmental Management and Assessment (IEMA). 2004. The Institute of Environmental Management and Assessment's Guidelines for Environmental Impact Assessment. Lincoln: IEMA.  |
| RD11 | Institute of Environmental Management and Assessment (IEMA). 2015. The IEMA Environmental Impact Assessment Guide to Shaping Quality Development. Lincoln: IEMA.  |
| RD12 | Planning Inspectorate. 2012. Advice note twelve: Regulation 24 of the EIA Regulations. [Online]. [Accessed: 19 December 2017]. Available from: <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/04/Advice-note-12v2.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/04/Advice-note-12v2.pdf</a>          |
| RD13 | Department of Energy and Climate Change. 2011. <i>National Policy Statement for Nuclear Power Generation (EN-6).</i> London: The Stationery Office.   |
| RD14 | Murphy, J.M., Sexton, D.M.H., Jenkins, G.J., Booth, B., Brown, C.C., Clark, R.T., Collins, M., Harris, G.R., Kendon, E.J., Betts, R.A., Brown, S.J., Humphrey, K.A., McCarthy, M.P., McDonald, R.E., Stephens, A., Wallace, R., Wilby, R. and Wood, R.A. 2009. <i>UK Climate Projections Science Report: Climate Change Projections</i> . Exeter: Met Office Hadley Centre. |