The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION

Proposed Wylfa Newydd Generating Station

April 2016

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EXECUTIVE SUMMARY

This is the Scoping Opinion (the Opinion) provided by the Secretary of State in respect of the content of the Environmental Statement for Wylfa Newydd Nuclear Power Station, on the north coast of Anglesey, Wales.

This report sets out the Secretary of State's Opinion on the basis of the information provided in Horizon Nuclear Power's ('the Applicant') report entitled Wylfa Newydd Generating Station Environmental Impact Assessment Scoping report dated 15 March 2016 ('the Scoping Report'). The Opinion can only reflect the proposals as currently described by the Applicant.

The Secretary of State has consulted on the Scoping Report and the responses received have been taken into account in adopting this Opinion. The Secretary of State is satisfied that the topic areas identified in the Scoping Report encompass those matters identified in Schedule 4, Part 1, paragraph 19 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended).

The Secretary of State draws attention both to the general points and those made in respect of each of the specialist topic areas in this Opinion. The main potential issues identified are:

- construction impacts (including noise, vibration, transport and air quality) on both the terrestrial and marine environment;
- impacts to surface and groundwater;
- impacts to terrestrial and marine ecology; and
- ensuring clarity within the Environmental Statement to the relationship in assessment terms between the proposed development subject to the DCO application, the enabling works and associated development.

Matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Secretary of State.

The Secretary of State notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2010 (as amended) (the Habitats Regulations).

1 INTRODUCTION

Background

1.1 On 18 March 2016, the Secretary of State received the Scoping Report submitted by Horizon Nuclear Power under Regulation 8 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) in support of a request for a scoping opinion for the proposed Wylfa Newydd Generating Station ('the proposed development'). This Opinion is made in response to this request and should be read in conjunction with the Applicant's Scoping Report.

1.2 This is the second Scoping Opinion provided for the proposed development. The first Opinion was produced by the Infrastructure Planning Commission (IPC) dated April 2010[1].

1.3 The Applicant has formally provided notification under Regulation 6(1)(b) of the EIA Regulations that it proposes to provide an ES in respect of the proposed development. Therefore, in accordance with Regulation 4(2)(a) of the EIA Regulations, the proposed development is determined to be EIA development.

1.4 The EIA Regulations enable an applicant, before making an application for an order granting development consent, to ask the Secretary of State to state in writing their formal opinion (a 'scoping opinion') on the information to be provided in the environmental statement (ES).

1.5 Before adopting a scoping opinion the Secretary of State must take into account:

(a) the specific characteristics of the particular development;

(b) the specific characteristics of the development of the type concerned; and

(c) environmental features likely to be affected by the development'.

(EIA Regulation 8 (9))

1.6 This Opinion sets out what information the Secretary of State considers should be included in the ES for the proposed development. The Opinion has taken account of:

- the EIA Regulations;
- the nature and scale of the proposed development;

[1] http://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010007/1.%20Pre-Submission/EIA/Scoping/Scoping%20Opinion/100430_EN010007_Wylfa-Scoping-Opinion-April-2010_web(smaller%20file).pdf

- the nature of the receiving environment; and
- current best practice in the preparation of an ES.

1.7 The Secretary of State has also taken account of the responses received from the statutory consultees (see Appendix 3 of this Opinion). The matters addressed by the Applicant have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Secretary of State will take account of relevant legislation and guidelines (as appropriate). The Secretary of State will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with that application when considering the application for a development consent order (DCO).

1.8 This Opinion should not be construed as implying that the Secretary of State agrees with the information or comments provided by the Applicant in their request for an opinion from the Secretary of State. In particular, comments from the Secretary of State in this Opinion are without prejudice to any decision taken by the Secretary of State (following submission of the application) that any development identified by the Applicant is necessarily to be treated as part of the nationally significant infrastructure project (NSIP), or through a separate consent regime where required.

1.9 Regulation 8(3) of the EIA Regulations states that a request for a scoping opinion must include:

(a) a plan sufficient to identify the land;

(b) a brief description of the nature and purpose of the development and of its possible effects on the environment; and

(c) such other information or representations as the person making the request may wish to provide or make.

(EIA Regulation 8 (3))

1.10 The Secretary of State considers that this has been provided in the Applicant's Scoping Report.

The Secretary of State's Consultation

1.11 The Secretary of State has a duty under Regulation 8(6) of the EIA Regulations to consult widely before adopting a scoping opinion. A full list of the consultation bodies is provided at Appendix 2. The Applicant should note that whilst the Secretary of State's list can inform their statutory pre-application consultation, it should not be relied upon for that purpose.

1.12 The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is provided at Appendix 3 along with copies of their comments, to which the Applicant should refer in undertaking the EIA.

1.13 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.

1.14 Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Planning Inspectorate's website. The Applicant should also give due consideration to those comments in carrying out the EIA.

Structure of the Document

1.15 This Opinion is structured as follows:

- **Section 1** – Introduction
- **Section 2** – The proposed development
- **Section 3** – EIA approach and topic areas
- **Section 4** – Other information.

1.16 This Opinion is accompanied by the following Appendices:

- **Appendix 1** – Presentation of the environmental statement
- **Appendix 2** – List of bodies formally consulted
- **Appendix 3** – Respondents to consultation and copies of replies.

2 THE PROPOSED DEVELOPMENT

Introduction

2.1 The following is a summary of the information on the proposed development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the proposed development and the potential receptors/resources.

The Applicant's Information

Overview of the proposed development

2.2 The proposed development is located on the north coast of Anglesey and extends into the Irish Sea at Porth-y-pistyll. The proposed development covers approximately 380 hectares of land.

2.3 The proposed development forms part of the 'Wylfa Newydd Project' as a whole which has been defined in the scoping report as;

- the Wylfa Newydd Generating Station (the proposed development for which a DCO is sought) - the proposed nuclear power station including two UK Advanced Boiling Water Reactors (UK ABWRs) together with related plant and ancillary structures and features to be constructed and operated on Anglesey; and
- associated development – development to support the delivery of the generating station which the Applicant proposes to consent separately through applications for planning permission under the Town and Country Planning Act (TCPA) 1990. These works are identified in Sections 1.3, 2.1.2 and 21.1 and Figure 1.1 of the Scoping Report and include highways improvements to the A5025, off-site worker accommodation, a logistics centre and an off-site park and ride.

2.4 Section 21.1 of the Scoping Report also notes that site preparation and clearance works would be consented separately through a TCPA application. These works have not been included within the Applicant's definition of 'associated development' within Sections 1.3 and 2.1.2 of the Scoping Report.

2.5 The proposed development for which a DCO is sought is described in detail in Chapter 3 of the Scoping Report. In summary, it would comprise the following permanent elements:

- main plant – this would comprise two units (Unit 1 and Unit 2), each of which would comprise:
  - reactor building and main stack;
  - turbine building;

  - service building;
  - control building;
  - heat exchanger building;
  - filter vent building;
  - back-up buildings;
  - standby AC power generation;
  - condensate storage tanks;
  - generator transformer and auxiliary transformers;
  - gas storage facilities; and
  - suppression pool drain.
- common plant – these would be shared between Unit 1 and Unit 2 and therefore there would be one of each of the following:
  - circulating water biocide treatment plant;
  - demineralised water treatment plant;
  - auxiliary boiler and tanks;
  - fire water pump house;
  - emergency response facilities;
  - supporting facilities, buildings, structure and features:
    - administration building;
    - maintenance and workshop building;
    - Horizon training and simulator building;
    - site perimeter fence and entrance buildings;
    - outage building;
    - marine off-loading facility (MOLF);
    - lighting; and
    - landscaping.
- radioactive waste buildings;
- cooling water system and breakwaters; and
- off-site facilities:
  - the Alternative Emergency Control Centre (AECC) and Environmental Survey Laboratory (ESL); and
  - the Mobile Emergency Equipment Garage (MEEG).

Description of the site and surrounding area

The Application Site

2.6 The location of the main application site (i.e. where the power station would be located, identified within Figure 3.1 of the Scoping Report as the Wylfa Newydd Development Area) is described within Section 1.2 of the Applicant's Scoping Report. Figure 3.1 of the Scoping Report identifies the location of the proposed development, along with indicative locations of the main facilities, buildings and structures.

2.7 A small Section of the western part of the main application site is within the Anglesey Area of Outstanding Natural Beauty (AONB), as shown on Figure 15.2 of the Scoping Report. The proposed development also lies within the locally designated Anglesey Special Landscape area.

2.8 The TAN 15 Development Advice Map issued by the Welsh Government indicates that the area where the power station buildings, plant and structures would be situated and the surrounding area is predominantly considered to be at little or no risk of fluvial or tidal / coastal flooding.

2.9 An Agricultural Land Classification (ALC) survey identified that most of the soils within the proposed development are Subgrade 3b (moderate quality), with a large area of Grade 5 (very poor quality). There are also small areas of Grade 2 (very good quality) and Subgrade 3a (good quality). The location and extent of the different ALC Grades are shown in Figure 13.1 of the Scoping Report.

2.10 The application site extends into the sea to create a MOLF at Porth-y-pistyll which will allow the unloading of cargo within the proposed development.

2.11 Tre'r Gof Site of Special Scientific Interest (SSSI) and Wylfa Head candidate local wildlife site are located within the application site.

2.12 The northern Section of the main application site partially overlaps with the southern part of the existing Wylfa power station, which is owned by the Nuclear Decommissioning Authority and operated by Magnox. It ceased generation on 31 December 2015 and will undergo defueling lasting around three years.

2.13 The locations of the off-site facilities (the AECC, ESL and MEEG) are shown on Figure 3.5 of the Scoping Report. These off-site facilities are proposed to be located as follows:

- AECC and ESL - located at Cefn Coch which is a rural site comprising mainly agricultural land; and
- MEEG – located at land adjacent to the A5025 in Llanfaethlu which is occupied by a vehicle repair garage which until recently included facilities for commercial heavy goods vehicle repairs.

The Surrounding Area

2.14 The existing Wylfa power station extends beyond the northernmost Section of the application site. To the east, the application site is separated from the village of Cemaes by a narrow corridor of agricultural land. The A5025 road and residential properties define part of the south-east boundary, with a small parcel of land spanning the road to the north-east of the village of Tregele. To the south and west of the application site lies agricultural land. To the west, it adjoins the coastal hinterland and includes part of Cestyll Garden, beyond which lies Cemlyn Bay. Cestyll Gardens is recorded as Grade II on the Cadw/ International Council of Monuments and Sites UK (ICOMOS) Register of Historic Parks and Gardens in Wales. The Irish Sea lies immediately beyond the MOLF.

2.15 The Anglesey AONB extends to the north-east of Cemaes and to the west of Cestyll Garden; both areas abut coastline that is designated as part of the North Anglesey Heritage Coast. Away from the coast, the land generally comprises rough grazing with exposed rock and gorse thickets. Farther inland the land is low lying and gently undulating with scattered farms, small settlements and isolated woodland.

2.16 Settlement patterns around the application site are characterised by small clusters of residential dwellings and isolated farmsteads. Larger settlements include the villages of Cemaes to the east and Tregele to the south-east. Other urban areas include the towns of Amlwch (9km east), Holyhead (24km south-west) and Llangefni (37km south-east).

2.17 The AECC and ESL site is in a rural location with a number of scattered farmsteads and houses located within 500m. Residential areas of Cefn Coch and Llanrhyddlad are located 0.5km north-east and 1.4km south-west, respectively. The A5025 lies to the east and Cylch-y-Garn to the north. The Afon Cafnan watercourse runs along the western boundary and a separate water channel runs to the south. Several other water courses surround the site. The Llyn Llygeirian SSSI is located 300m to the south east.

2.18 The MEEG site is located on land adjacent to the A5025, approximately 350m to the north east of the village of Llanfaethlu. The surrounding area is relatively flat in topography and predominantly rural in nature. Residential properties lie adjacent to the northern and southern extent of the Llanfaethlu site and an access track to residential properties forms the northern boundary. A sewage works is located approximately 70m south-east of the site whilst a historic landfill has been recorded opposite. The Llanfaethlu site is surrounded by a number of other watercourses and ponds, the closest of which is a small watercourse approximately 80m south of the site boundary and which is a tributary of the Afon Llanrhyddlad. The land on the opposite side of the A5025 from the Llanfaethlu site is within the Anglesey AONB and the nearest designated nature conservation site is the Llyn Garreg-lwyd SSSI, approximately 700m north-west of the Llanfaethlu site.

Grid connection

2.19 The electricity produced by the proposed development would connect to an existing National Grid substation which is located adjacent to the proposed power station buildings. The connection works from the National Grid substation into the National Grid are not included in the works for the proposed development and will be the subject of a separate DCO application by National Grid Electricity Transmission plc (known as the North Wales Connection).

Alternatives

2.20 The Applicant discusses alternatives to the proposed development at Chapter 4 of the Scoping Report in respect of site selection, layout and technologies and taking into account environmental effects, economic, commercial and technical feasibility.

2.21 The Scoping Report confirms that the Environmental Statement for the proposed development will provide a full description of alternatives, including the 'do nothing' scenario, alternative locations, layouts, technologies and systems.

Proposed access

2.22 Vehicular access would be from a new power station access road that would permanently connect to the A5025. Construction of this connecting road would commence early in the main construction stage (as defined in Section 3.7.2 and shown in Figure 3.4 of the Scoping Report).

2.23 The internal road layout for the proposed development is shown on Figure 3.1 of the Scoping Report.

2.24 The Scoping Report states that two quays would be constructed at the MOLF early on in the construction programme to allow delivery of freight by sea. At least one of the quays would be retained for the operational phase to allow sea transportation for maintenance.

Construction

2.25 The lifetime of the proposed development is divided into four main stages as outlined in Section 3.7 of the Scoping Report:

- Stage One: Enabling works;
- Stage Two: Main construction;
- Stage Three: Commissioning and operation; and
- Stage Four: Decommissioning.

2.26 Figure 3.4 of the Scoping Report provides an indicative high level timeline that shows the sequence of the activities for the main built components of the proposed development. This shows the enabling works taking place

from mid-2016 until late-2018 and the main construction stage taking place from mid-2018 until mid-2026.

2.27 Several thousand construction workers would be required for the Wylfa Newydd Project as a whole, with numbers estimated to reach between 8,000 and 10,000 shift workers during peak periods.

2.28 Construction activities would include:

- operation of machinery and mobile plant such as excavators, earth-movers, tipper trucks, pneumatic breaking equipment, generators, compressors, pumps, rock crushers, a concrete batcher, mobile cranes, piling plant and dredgers;
- rock fracturing (likely using blasting) to facilitate the excavation of rock in excavation and dredging areas;
- transportation of personnel, materials and equipment to and from the site(s) on the public highways; and
- transportation of materials and equipment to and from the application site via marine vessels.

2.29 The Scoping Report states that land immediately to the south and east of the proposed area for the power station buildings would be used as the main construction compounds; however their exact locations have not been provided.

Operation and maintenance

2.30 The indicative timeline in Figure 3.4 of the Scoping Report identifies the start of commissioning and operation as being mid 2023, with commercial operation of the proposed development commencing in 2026.

2.31 Once operational, the Wylfa Newydd Project as a whole is expected to create up to 850 permanent jobs on Anglesey and up to 1,000 additional temporary jobs during periodic outages for maintenance.

2.32 The operation of the proposed development would require the occasional delivery of fresh nuclear fuel to the site. Radioactive waste from the proposed development would be stored on site until they are transported for final disposal to a geological disposal facility.

2.33 The operational life of the proposed development is anticipated to be 60 years.

Decommissioning

2.34 Decommissioning does not form part of the proposed development and the Applicant anticipates that it would need to undertake further EIA at the time under the Nuclear Reactions (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended).

2.35 Decommissioning is estimated to last for approximately 20 years.

The Secretary of State's Comments

Description of the application site and surrounding area

2.36 There is little information in the introductory chapters regarding the existing conditions of the main application site itself. The Secretary of State would expect the introductory chapters of the ES to include a section that summarises the site and surroundings, in addition to detailed baseline information to be provided within topic specific chapters of the ES. This should identify the context of the proposed development, any relevant designations and sensitive receptors. The ES should identify and describe all land that could be directly or indirectly affected by the proposed development.

2.37 Section 1.2 of the Scoping Report introduces the following terminology to describe the site:

- Power Station Site;
- Wylfa NPS Site;
- Wylfa Newydd Development Area; and
- Off-site.

2.38 The Secretary of State welcomes the Applicant's intention to define and adopt a consistent set of terminology in describing the site.

2.39 The ES should detail the temporary and permanent land take of the proposed development as a whole, including the off-site facilities.

2.40 There are a number of areas within the application site which appear to be 'empty' i.e. without any development taking place. The ES should explain the need for any such areas. Similarly, Figure 3.1 of the Scoping Report shows the application site extending beyond the area required for the MOLF; it is unclear why this is the case and this should be explained within the ES. The ES should also explain why the application site overlaps with the existing power station and what works would take place in this area.

Description of the proposed development

2.41 The Applicant should ensure that the description of the proposed development that is being applied for is as accurate and firm as possible as this will form the basis of the environmental impact assessment. It is understood that at this stage in the evolution of the scheme the description of the proposals may not be confirmed. The Applicant should be aware however, that the description of the development in the ES must be sufficiently certain to meet the requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations and there should therefore be more certainty by the time the ES is submitted with the DCO.

2.42 The Secretary of State recommends that the ES should include a clear description of all aspects of the proposed development, at the construction, operation and decommissioning stages, and include:

- land use requirements, including the area of the offshore elements;
- construction processes and methods;
- transport routes;
- operational requirements including the main characteristics of the production process and the nature and quantity of materials used, as well as waste arisings and their disposal;
- maintenance activities including any potential environmental or navigation impacts;
- emissions - water, air and soil pollution, noise, vibration, light, heat, radiation; and
- restoration proposals such as site landscaping and enhancement measures.

2.43 Figure 3.1 of the Scoping Report identifies the 'main plant', 'common plant' and 'supporting facilities, buildings, structure and features'. The Secretary of State would expect the ES to identify the locations of the individual elements detailed in Chapter 3.

2.44 The Scoping Report states that at least one of the quays at the MOLF would be retained for the operational phase. The Secretary of State would expect the further details on the MOLF, for example the construction methodology and dimensions of structures, to be provided within the ES. In addition, the Secretary of State would expect the Applicant to confirm whether one or both of the quays would be retained for the operational phase and to assess the potential impacts of these elements accordingly within the ES.

2.45 No reference is made in the Scoping Report in terms of the estimation or assessment of operational shipping and the Secretary of State expects the description of the development and relevant topic areas of the EIA to consider this aspect.

2.46 The ES should clearly identify the locations of the once-through cooling water system and breakwaters, including the intake structure and pumphouse and outfall tunnels and outfall structure. Design details should also be provided, including information on any screening and fish protection systems. The ES should also provide details of the turbine building service water system and the reactor building service water system. NPS EN-6 states that cooling water intake and outfall should be carefully sited to minimise impacts where appropriate; this should be demonstrated within the ES.

2.47 The Scoping Report explains that electrical power generated by the proposed development would be conducted through buried cables or

overhead lines from the generator transformer to the National Grid substation. The ES should provide firm details on these works and confirm their locations and construction methodology.

2.48 The Scoping Report identifies a number of different radioactive waste facilities. The ES should provide a figure identifying the locations of each of these. The Secretary of State considers there is the potential for confusion between the 'Radioactive waste building' and the 'Radioactive waste storage buildings' and advises that the Applicant takes care to clearly define and explain the purposes of these buildings in order for their environmental effects to be clearly understood.

2.49 The Scoping Report identifies the need to divert public rights of way (PRoW). The ES should identify the diversions required, including details of where they have been diverted to and for how long the diversion would be in place for.

2.50 In line with NPS EN-6, the ES should detail how good design has been considered to mitigate impacts for example in relation to landscape and visual impacts.

2.51 Figure 3.4 of the Scoping Report shows that the enabling works would commence before the anticipated date of the DCO application decision. The Secretary of State understands that these enabling works are the 'site preparation and clearance works' referred to in Section 21.1 of the Scoping Report which would be consented under the TCPA and not through the DCO. This is not clear within the Scoping Report and should be clearly explained within the ES. The ES should also detail any additional site preparation or enabling works that would be required following those works having been completed under any TCPA consent, for example in and around the site of the proposed MOLF.

2.52 Figure 3.4 of the Scoping Report indicates an overlap of the main construction stage with both the commissioning and operation stage and the commercial operation stage. The ES should clearly explain which of the described activities would overlap and assess the potential combined impacts of concurrent construction and operation. The difference between the operation and commercial operation stages should also be clearly defined so as to understand the assessment of environmental effects in respect of each.

2.53 The Scoping Report uses the term 'the Project' interchangeably when referring to either the proposed development or the 'Wylfa Newydd Project' as whole (see for example within Table 1.1). The Applicant should take particular care to avoid such confusion within the ES and to apply consistent terminology for the development for which the DCO is sought and the overall scheme including the TCPA works.

2.54 The Scoping Report has identified a number of elements of the Wylfa Newydd Project as a whole which would be consented separately from the generating station. This has been termed 'associated development' in the

Scoping Report, the proposed locations of which are shown on Figure 21.1 of the Scoping Report. The Secretary of State considers that any associated development works (whether on or off-site) should also be assessed as part of an integrated approach to environmental assessment and welcomes that this is the Applicant's intention.

2.55 The Secretary of State is aware that the draft Wales Bill (October 2015) currently includes provision allowing for associated development to be included within applications for development consent for generating stations in Wales. If these provisions are enacted, and depending on the timeframes for this, it could enable the Applicant to include associated development within their DCO application. It would be for the Applicant to decide the appropriate content of their DCO application and consider and review any relevant legislative changes as and when they occur; when determining the DCO application the relevant Secretary of State will decide whether or not development should be treated as associated development. The Secretary of State notes that all works included within the DCO application should be reflected within the project description of the ES and appropriately assessed.

2.56 Whilst it is very useful to understand the proposed development within the context of the Wylfa Newydd Project as a whole, any figures within the ES should clearly identify those elements which do not form part of the proposed development for which development consent is sought.

2.57 The Secretary of State notes that Sections 1.3 and 2.1.2 of the Scoping Report identify the AECC and ESL as associated development; however these are noted elsewhere in the Scoping Report as forming part of the proposed development. This should be clarified within the ES.

2.58 The Applicant's attention is drawn to the comments of Isle of Anglesey County Council (IACC) (see Appendix 3 of this Opinion) highlighting that there is no relevant category of "associated development" in Wales. The Applicant may wish to consider using alternative terminology within the ES for these facilitative works. However, for the purposes of this Opinion, the Secretary of State has used the Applicant's terminology.

Flexibility

2.59 The Secretary of State notes the comments in Section 7.2.3 of the Scoping Report that some details of the proposed development would change between the initial design process, the appointment of contractors and the final design and construction process. The Scoping Report states that the EIA will therefore look at limits of deviation from expected parameters (such as building footprint and height, route of infrastructure links, etc.) and assess the 'reasonable worst case' for each environmental topic.

2.60 The Secretary of State welcomes the reference to Planning Inspectorate Advice Note nine - Using the 'Rochdale Envelope' (Version 2, April 2012) but also directs attention to the 'Flexibility' section in Appendix 1 of this

Scoping Opinion which provides additional details on the recommended approach.

2.61 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the scheme have yet to be finalised and provide reasons as to why. At the time of application, any proposed scheme parameters should not be so wide ranging as to represent effectively different schemes. The scheme parameters will need to be clearly defined in the draft DCO and therefore in the accompanying ES. In this regard, the Secretary of State would expect the ES to contain dimensions for the buildings and structures (for both the onshore and offshore elements of the proposed development) and for a clear figure identifying their proposed locations.

2.62 It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the proposed development in the ES must not be so wide that it is insufficiently certain to comply with requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations.

2.63 It should be noted that if the proposed development changes substantially during the EIA process, prior to application submission, the Applicant may wish to consider the need to request a new scoping opinion.

Grid connection

2.64 The Secretary of State notes that the grid connection would be the responsibility of National Grid Electricity Transmission plc and would be subject to a separate DCO consent application.

2.65 The Secretary of State welcomes that the grid connection has been scoped into the cumulative impact assessment in Table 21.3 of the Scoping Report and recommends that in line with NPS EN-1 Section 4.9, the ES provides sufficient information on the connection works (in particular those works that would take place within the application site) to enable an understanding of the indirect, secondary and cumulative effects of these works.

Proposed access

2.66 The Secretary of State assumes that the proposed vehicular access is the road identified in a grey outline the southern portion of Figure 3.1 of the Scoping Report, adjacent to the proposed visitor centre; however this is not clear from the figure's key which shows 'local roads' to be a grey outline. Figures within the ES should confirm the location of the proposed access and include details of its design and construction.

2.67 The ES should detail the design and construction methodology of the proposed MOLF, along with the number of anticipated vessel movements during the construction and operational phases.

Alternatives

2.68 The EIA Regulations require that the Applicant provide 'An outline of the main alternatives studied by the Applicant and an indication of the main reasons for the Applicant's choice, taking into account the environmental effects' (See Appendix 1 of this Opinion). The Secretary of State welcomes the Applicant's intention to report on alternatives within the ES.

2.69 Further information on alternatives is included in Section 4 of this Opinion.

Construction

2.70 The Secretary of State notes that no information has been provided in the Scoping Report regarding the size and location of construction compounds. Applicants are reminded that this information will be required and should be included in the DCO boundary and assessed throughout the topic chapters of the ES.

2.71 The Secretary of State considers that information on construction should be clearly indicated in the ES, including:

- phasing of programme;
- construction methods and activities associated with each phase;
- siting of construction compound(s);
- lighting equipment/requirements;
- number, movements and parking of construction vehicles (both HGVs and staff); and
- number and movements of marine vessels.

2.72 The Scoping Report identifies the number of construction workers for the Wylfa Newydd Project, which the Secretary of State has assumed is in reference to the project as a whole (i.e. the generating station and associated development). The Secretary of State would expect the ES to provide figures for the proposed development alone. The same applies to the number of operational permanent jobs.

2.73 Section 9.2.1 of the Scoping Report states that rock excavation and dredging would take place within the application site. The ES should detail whether any arisings from these activities would be re-used on site or removed off-site. If the latter, the ES should quantify the number of vehicle or vessel movements this would result in.

Operation and maintenance

2.74 Information on the operation and maintenance of the proposed development should be included in the ES and should cover, but not be limited to, such matters as: the number of full/part-time jobs; the operational hours and if appropriate, shift patterns; and the number and types of vehicle movements generated during the operational stage

including (but not limited to) those related to the delivery of fuel and removal of radioactive waste.

2.75 The Scoping Report notes that radioactive waste would be stored on-site and Section 2.2.4 acknowledges the Applicant's need to demonstrate that such waste storage could be safely and securely achieved until such time that it could be disposed to a geological disposal facility (GDF), as required by paragraph 2.11.5 of NPS EN-6. NPS EN-6 states that geological disposal is currently expected to be available from around 2130. The Secretary of State therefore expects the EIA for the proposed development to reflect this in terms of the description of the development and assessment of environmental effects.

Decommissioning

2.76 In terms of decommissioning, the Secretary of State acknowledges that a separate EIA would be required for decommissioning under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended).

2.77 Section 3.7.4 of the Scoping Report states that "decommissioning activities will be covered only to a certain extent within the Environmental Statement", and in this respect, the Secretary of State draws the Applicant's attention to Paragraph 4.2.3 of NPS EN-1 and Paragraph 3.1.3 of NPS EN-6. The Secretary of State expects the Applicant to clearly explain the approach to consideration of decommissioning effects in the ES as well as the relationship to any subsequent consent that may be required for the decommissioning phase in the future.

2.78 An assessment of environmental impacts at the decommissioning stage is necessary to enable the decommissioning works to be taken into account in the design and use of materials, such that structures can be taken down with the minimum of disruption. The Secretary of State considers that the process and methods of decommissioning should be considered and options presented in the ES, where possible.

3 EIA APPROACH AND TOPIC AREAS

Introduction

3.1 This Section contains the Secretary of State's specific comments on the approach to the ES and topic areas as set out in the Scoping Report. General advice on the presentation of an ES is provided at Appendix 1 of this Opinion and should be read in conjunction with this Section.

EU Directive 2014/52/EU

3.2 The Secretary of State draws the Applicant's attention to EU Directive 2014/52/EU (amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment) which was made in April 2014. Under the terms of the 2014/52/EU Directive, Member States are required to bring into force the laws, regulations and administrative provisions necessary to comply with the Directive by 16 May 2017.

3.3 The Secretary of State welcomes the Applicant's intention that the EIA for the proposed development will take into account changes that are anticipated to be transposed into the new EIA Regulations (Section 2.1.4 of the Scoping Report).

3.4 In particular, the Secretary of State welcomes the Applicant's intention to consider climate change. In line with NPS EN-6 Vol II, the ES should detail how the proposed development incorporates adaptation measures to take account of the effects of climate change.

National Policy Statements (NPS)

3.5 Sector specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority will make their recommendations to the Secretary of State and include the Government's objectives for the development of NSIPs.

3.6 The relevant NPSs (EN-1 and EN-6) for the proposed development set out both the generic and technology-specific impacts that should be considered in the EIA for the proposed development. When undertaking the EIA, the Applicant must have regard to both the generic and technology-specific impacts and identify how these impacts have been assessed in the ES.

Environmental Statement Approach

3.7 As detailed above, a previous Scoping Opinion for the proposed development was produced by the IPC in April 2010. The Secretary of State welcomes that the Applicant has provided a response to the previous Opinion (Appendix C of the Scoping Report) and recommends that a

similar approach is adopted in the ES in reference to how the points raised within this Scoping Opinion have been addressed.

3.8 The Secretary of State notes the complexity of the individual elements of the power station, the enabling works and associated development collectively forming the Wylfa Newydd Project as a whole. The Secretary of State welcomes that the Applicant identifies the need for the overall environmental effects of the Project as a whole to be understood.

3.9 The Applicant has outlined their intent to ensure that any ES produced in support of enabling works or associated development made in advance of the DCO submission will explain the role it performs in the context of the overall Wylfa Newydd Project. The Secretary of State expects that details of any supporting applications are adequately described in the ES submitted in support of the DCO application, such that it can be clearly understood how their environmental effects have been considered as part of the EIA for the DCO (for example as part of the baseline conditions, as cumulative effects or otherwise).

3.10 The Secretary of State notes the statement within the Scoping Report that TCPA consent applications submitted in advance of the DCO application may contain components that "*form an essential enabling activity or mitigation of the overarching Wylfa Newydd Project*". The ES should explain the extent to which mitigation can be relied upon in the ES and how its delivery is secured particularly if it is outside of DCO.

3.11 In this regard, the ES should clarify whether the baseline for the proposed development will consider the conditions pre- or post- enabling works and associated development works. The Secretary of State recommends that the approach is agreed with IACC, and other bodies where relevant, and that the approach is clearly detailed within the ES. Similarly, the ES will need to be clear as to whether associated development consented under TCPA are considered as forming part of the baseline conditions or are considered in terms of cumulative effects.

3.12 The Secretary of State notes and welcomes the intention to finalise the scope of assessments in conjunction with ongoing stakeholder liaison and consultation with the relevant regulatory authorities and their advisors.

3.13 The Secretary of State recommends that the physical scope of the study areas should be identified under all the environmental topics and should be sufficiently robust in order to undertake the assessment. The extent of the study areas should be on the basis of recognised professional guidance, whenever such guidance is available. Where agreement with consultees is not possible, this should be stated clearly in the ES and a reasoned justification given. The scope should also cover the breadth of the topic area and the temporal scope and these aspects should be described and justified within the ES. The Secretary of State also recommends that the Applicant seeks to agree with relevant consultees the timing and relevance of survey work, as well as the methodologies to be used.

3.14 The Scoping Report states that effects would be classified as major, moderate, minor and not significant. Within the overarching methodology, the ES should clearly define what level of effect may constitute a significant effect in EIA terms.

3.15 The Scoping Report has recognised the need to identify mitigation measures across the technical chapters. Mitigation measures should be agreed with the relevant consultees, clearly set out within the ES and appropriately secured within the DCO or via other suitable methods. The Secretary of State expects to be able to understand the effectiveness of mitigation measures and will need to be satisfied that they are adequately secured.

3.16 The Scoping Report refers to mitigation measures being considered throughout the design phase. The Applicant should clearly describe mitigation that is embedded and how it is proposed to be secured within the design and presented within the DCO application. There should be a clear distinction between mitigation that is proposed in response to effects identified in the EIA and that which is inbuilt / inherent in the design. In the case of the latter, the Secretary of State will expect to understand how the embedded mitigation has been considered within the EIA.

3.17 Management plans relied upon in the assessment should be sufficiently advanced at the point of the DCO application so as to provide confidence to the efficacy and should not be presented in generic, non-project specific or outline terms.

3.18 A number of figures within the Scoping Report identify study areas for the 'Wylfa Newydd Development Area' only and not for the MEEG, ESL and AECC. The figures within the ES should include these off-site facilities and their potential effects should be appropriately assessed throughout.

3.19 The Secretary of State notes that at present there is the potential for near-continuous construction and 24 hour operation of the proposed development. The ES should take into account the impacts of 24 hour working within all assessments, taking into account that the impacts of 24 hour working on receptors may be different between the construction phase and the operational phase.

3.20 The Scoping Report states that the existing Wylfa power station will undergo defueling lasting around three years however has not stated when this would take place. The ES should provide this information, where it is known, and ensure that any works are taken into account in the cumulative assessment.

3.21 The environmental effects of all wastes to be processed and removed from the site should be addressed. The ES will need to identify and describe the control processes and mitigation procedures for storing and transporting waste off site. All waste types should be quantified and classified. The Applicant is directed to the comments of NRW (see Appendix 3 of this Opinion) regarding such an assessment.

3.22 The Scoping Report has provided references to the PEI Report. The Applicant should ensure that all relevant information is provided within the application documents.

3.23 The Secretary of State recommends that in order to assist the decision making process, the Applicant may wish to consider the use of tables:

(a) to identify and collate the residual impacts after mitigation on the basis of specialist topics, inter-relationships and cumulative impacts;

(b) to demonstrate how the assessment has taken account of this Opinion and other responses to consultation;

(c) to set out the mitigation measures proposed, as well as assisting the reader this would also enable the Applicant to cross refer mitigation to specific provisions proposed to be included within the draft DCO; and

(d) to cross reference where details in the HRA (where one is provided) such as descriptions of sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

Environmental Statement Structure

3.24 Chapter 7 of the Scoping Report (Approach to the Environment Impact Assessment) provides a description of the proposed approach to the EIA process and includes details of the proposed form of the ES and the approach to the assessment process. The ES will be made up of several volumes and will include a Non-Technical Summary, however no further details have been provided at this stage on the make-up of these volumes.

3.25 The Scoping Report identifies the following environmental topics :

- Air Quality;
- Noise and Vibration;
- Landscape and Visual;
- Terrestrial and Freshwater Ecology;
- Radiological Effects;
- Soils and Geology;
- Surface Water and Groundwater;
- Coastal Processes and Coastal Geomorphology;
- The Marine Environment;
- Archaeology and Cultural Heritage;
- Socio-Economics;
- Public Access and Recreation;
- Traffic and Transport; and
- Cumulative Effects.

3.26 For consistency, each Environmental Statement topic chapter is likely to be similarly structured in accordance with the following headings:

- Introduction;
- Guidance and consultation (topic specific guidance and consultation that has informed the assessment);
- Methodology (describing the study area, how the baseline has been characterised and impacts evaluated);
- Environmental baseline, including identification and valuation of receptors;
- Assessment of effects during construction, operation and decommissioning;
- Potential effects and mitigation;
- Residual effects;
- Cumulative impact assessment; and
- References.

3.27 The Sectary of State welcomes the Applicant's intention to provide an assessment of cumulative effects as part of each topic chapter alongside a summarising, standalone cumulative impacts assessment chapter within the ES.

3.28 Section 7.3 of the Scoping Report refers to 'Other Impact Assessments' that the Applicant will undertake, namely a Health Impact Assessment (HIA) and Habitats Regulations Assessment (HRA). The Secretary of State recommends that there is a suitable degree of cross reference between these documents and the relevant Sections of the ES to minimise duplication and to assist in the overall cohesion of the environmental assessment information submitted as part of the DCO application. This is of particular relevance where the same evidence base is used for the purposes of multiple assessments.

3.29 Further comments on HRA and HIA are contained in Section 4 of this Scoping Opinion.

Matters to be Scoped out

3.30 The Applicant has identified in Section 6.3 of the Scoping Report matters that are proposed to be 'scoped out' of the EIA. These include:

- Ozone;
- Odour;
- Insect Infestation;
- Accidental Radiological Releases;
- Seismic Risk; and

- Civil and Military Aviation and Defence Interests.

3.31 Matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Secretary of State.

3.32 Whilst the Secretary of State may not agree to scope out certain topics or matters within the Opinion on the basis of the information available at the time, this does not prevent the Applicant from subsequently agreeing with the relevant consultees to scope matters out of the ES, where further evidence has been provided to justify this approach. This approach should be explained fully in the ES.

3.33 In order to demonstrate that topics have not simply been overlooked, where topics are scoped out by the Applicant prior to submission of the DCO application, the ES should still explain the reasoning and justify the approach taken.

3.34 The Applicant's reasons in justifying the above matters being scoped out of the assessment are provided in Sections 6.3.1 – 6.3.6 of the Scoping Report respectively and are dealt with separately in the following paragraphs.

Ozone

3.35 The Applicant proposes to scope out the assessment of ozone on the basis that its long life in the atmosphere and ability to form and travel great distances from the source makes it difficult to assess and control at a local scale. At Section 6.3.1 of the Scoping Report, the Applicant states that given the presence of National and European level ozone controls and the fact that it is standard industry practice to 'scope out' assessment of regional ozone effects from EIAs, no assessment will be undertaken in the context of the proposed development.

3.36 The Secretary of State notes that controls are in place at national and European level to control ozone and that any potential effects from ozone are unlikely to be significant and therefore agrees that ozone can be scoped out from the EIA.

Odour

3.37 The Applicant states that there are no significant sources of odour associated with the proposed development, and that this topic can therefore be scoped out of the EIA. The Applicant proposes to keep this decision under review whilst more details emerge through the evolving design of the proposed development in the event that "*potential odour sources are identified*".

3.38 The Scoping Report identifies areas of potential contamination within the site and that tunnel excavations would be required to construct the cooling water intake system. The Secretary of State considers that the potential mobilisation of contaminants and the storage of spoil on site have the

potential to generate odour and therefore does not agree to this topic being scoped out of the assessment at this stage.

Insect Infestation

3.39 Insect infestation has been scoped out of further consideration in the EIA by the Applicant as it has been considered as part of a site specific Pre-Construction Safety Report (PCSR) for the proposed development.

3.40 The Scoping Report does not indicate any likely sources of insect infestation. However, the Secretary of State refers the Applicant to the criteria at paragraph 5.6.7 of NPS EN-1 which requires an assessment of insect infestation and recommends that any conclusions drawn as part of the PCSR are fully cross referenced within the ES for completeness. On the basis that this information is provided within the ES, the Secretary of State agrees that no further assessment is required.

Accidental Radiological Releases

3.41 The Applicant has proposed to scope out the environmental impacts of unplanned/accidental radiological releases from the ES. This is on the basis that the Nuclear Safety Case will assess scenarios involving unplanned releases and that a submission pursuant to Euratom Article 37 for the power station will contain an assessment of accident scenarios to the local area and affected European Union Member States.

3.42 However, the Secretary of State draws the Applicant's attention to article 15 of 2014/52/EU which states that for certain projects (because of their vulnerability to major accidents, and/or natural disasters) "it is important to consider their vulnerability (exposure and resilience) to major accidents and/or disasters, the risk of those accidents and/or disasters occurring and the implications for the likelihood of significant adverse effects on the environment". The Secretary of State notes that the Applicant has committed to meet the requirements of the new Directive and therefore advises the Applicant gives consideration to assessing accidental radiological releases within the EIA.

Seismic Risk

3.43 The Scoping Report states that seismic risk will be considered as part of the generic design assessment and Nuclear Site Licence Application. For the same reason as given above in relation to accidental radiological releases, the Secretary of State advises the Applicant gives consideration to assessing seismic risk within the EIA.

Civil and Military Aviation and Defence Interests

3.44 The Secretary of State agrees that the NPS EN-6 Strategic Search Area (SSA) assessed the application site in relation to its proximity to civil and military aircraft movement and it was found to be potentially suitable.

3.45 The Secretary of State also notes that the existing nuclear power station adjacent to the proposed development site has a Restricted Area around it to protect against risks from civil aircraft movement. NPS EN-6 (as advised by the Civil Aviation Authority (CAA) and agreed by the Office of Nuclear Regulation (ONR)) suggests that a new Restricted Area (or amendment to the existing Restricted Area) could afford similar protection for the proposed development and therefore this topic has been scoped out by the Applicant.

3.46 The Secretary of State agrees that, in accordance with NPS EN-6 Annex C paragraphs C.9.44 – C.9.47, impacts to aviation and defence interests can be scoped out of the EIA. The Secretary of State will, however, expect any DCO to include provisions for any necessary measures to mitigate potential effects on air traffic and aerodromes, as referred to at paragraph C.9.47 of NPS EN-6 Annex C.

Topic Areas

Air Quality (Scoping Report Chapter 8)

3.47 The Secretary of State advises that the Applicant discusses and where possible agrees their approach to the assessment including the establishment of the baseline environment, the proposed assessment methodology and any mitigation measures with the Environmental Health Department of the IACC and Natural Resources Wales (NRW).

3.48 The Secretary of State welcomes that a detailed description of the baseline conditions will be provided with the DCO application and notes that this will be in a separate report (Baseline Data Synopsis Report – Air Quality, Horizon report reference WN03.03.01-S5-PACREP-00017). The Applicant should ensure that the ES also contains a description of the baseline, with appropriate cross referencing to the separate report.

3.49 The Secretary of State notes that the baseline environment described within the Scoping Report is based on monitoring undertaken by the IACC for (NO_2, PM_{10}, $PM_{2.5}$ and SO_2) and Defra and on the Devolved Administration background maps. The ES should explain how the IACC data is relevant to the proposed development by providing details of the locations and timings of monitoring, as well as the results where relevant. The IACC Air Quality Progress Report is dated 2014; the Applicant should ensure that the baseline data is up to date and relevant to the project, taking into account the closure and decommissioning of the existing Wylfa Power Station.

3.50 The Scoping Report states that there is one location where the NO_2 annual mean air quality objective was not met; the ES should clearly identify this location and provide details of the exceedance(s).

3.51 The Scoping Report refers to sensitive receptors including human and ecological receptors. The Secretary of State recommends that these are agreed with the Environmental Health Department of IACC and NRW. The

ES should clearly identify the locations and sensitivities of such receptors, using figures where appropriate.

3.52 Section 8.3 of the Scoping Report states emissions of air pollutants could result from marine vessels, however there is no further reference to the assessment of these impacts, for example in Table 8.1. The ES should include an assessment of these potential impacts.

3.53 The Secretary of State welcomes that potential impacts to air quality affecting ecological receptors will be assessed in the ES; however limited detail has been provided within the Scoping Report regarding how this will be undertaken. The Secretary of State recommends that consideration is given to assessing deposition at designated sites with reference to relevant critical levels and loads. Appropriate cross reference should be made to the ecology chapter.

3.54 The Secretary of State welcomes that mitigation measures would be employed during the construction phase as detailed in a Dust Management Plan and advises that a draft version of the plan is provided with the DCO application. The Applicant should ensure that such a plan, and any other mitigation measures relied upon, are detailed within the ES and adequately secured.

3.55 The Secretary of State welcomes that study areas have been defined within the Scoping Report for the different activities; dust emissions during construction, construction impacts, and operational impacts. These should also be explained within the ES.

3.56 The ES should define the parameters used for dispersion modelling of combustion emissions. Section 3.2.1.1 of the Scoping Report states that the emissions stack would have an approximate height of between 70m and 80m; therefore the implications of stack height and dispersion should be clearly explained within the ES. The Secretary of State recommends that dispersion modelling considers a range of possibilities and seeks to ensure that the 'worst case' scenario is assessed, for example the 'worst case' may occur as a short term impact.

3.57 The Secretary of State welcomes that the Applicant intends to follow established guidance for their assessment. The ES should detail the methodologies used and clearly explain how the levels of significance (in EIA terms) will be established.

3.58 The Secretary of State advises that the Applicant gives consideration to monitoring of air quality and that details of monitoring are provided within the ES.

Noise and Vibration (Scoping Report Chapter 9)

3.59 The Secretary of State welcomes that the general approach for the noise and vibration modelling and assessments of the Wylfa Newydd Project as a whole (i.e. the DCO, the enabling works and the associated development)

have been agreed with NRW and IACC as detailed in Appendix D of the Scoping Report. The Secretary of State acknowledges this technical note will be updated if required and advises that a final version is appended to the ES. The ES should make it clear which elements of the assessment detailed in the technical note are for the proposed development and also detail how the significance of noise and vibration impacts will be determined in EIA terms.

3.60 Details of potential vibration sources have been provided within Section 5.1 of Appendix D of the Scoping Report; the Secretary of State considers that it would be useful for such detail of the construction works to be included within the ES chapter. Similarly, detail of other construction methods should be provided within the ES.

3.61 Appendix D of the Scoping Report states that representative receptors have been selected, however these have not been identified; the ES should clearly present receptor locations and sensitivities, using figures where appropriate for static receptors.

3.62 The Scoping Report states that noise monitoring surveys were undertaken between 2010 and -2014, along with a survey in 2015 characterising noise levels in the vicinity of the A5025. The Secretary of State notes that since these surveys the existing Wylfa Power Station has ceased operation; this is acknowledged in Appendix D of the Scoping Report which states that if additional monitoring is not possible, the future baseline can be estimated by modelling the existing power station noise emissions and subtracting them from the existing measure baseline. This approach to determining the future baseline should be agreed with IACC and NRW. Details of the baseline monitoring surveys, along with their results, should also be included within the ES to ensure they are included within the application documents.

3.63 Figure 9.1 of the Scoping Report identifies a single vibration monitoring location south of the existing Wylfa Power Station but no further details on vibration monitoring has been provided. The ES should provide details of the baseline vibration environment and a justification for the choice of monitoring location. The Secretary of State advises that the Applicant discusses their approach to the assessment of vibration with the IACC.

3.64 Section 9.1.1 of the Scoping Report states that underwater noise and vibration effects on ecological receptors are considered in chapter 16 (The marine environment) of the Scoping Report, however no further detail has been provided within chapter 16. Given that construction activities are proposed to take place within the marine environment and that the proposed development would introduce new vessel movements to the area during both construction and operation, the Secretary of State considers that the potential noise and vibration impacts on marine ecological receptors should be assessed within the ES. The Applicant is advised to consult with NRW on the scope of the assessment. Appropriate cross reference should be made to the ecology and/or marine environment chapter of the ES.

3.65 The Scoping Report does not identify whether any baseline noise monitoring surveys have been undertaken at the off-site facilities (i.e. the AECC, ESL and the MEEG). The Applicant should ensure they have sufficient data to characterise the baseline noise and vibration environment in these locations to enable a robust assessment to be undertaken.

3.66 Section 9.2.2 of the Scoping Report refers to various mitigation measures that will be considered in the design of the proposed development including engineering, lay-out, administrative and sound insulation measures. Where these measures are employed, they should be detailed in the ES.

3.67 The Secretary of State notes that an earth bund is proposed at the perimeter of the Power Station Site adjacent to Tregele (Section 3.5.1 of Appendix D of the Scoping Report), which is to be taken into account within the noise modelling. The Applicant should ensure that this bund is shown on relevant figures within the ES and secured either as mitigation and / or a works number within the DCO. The bund should also be considered within the L&V assessment.

3.68 The Applicant proposes not to assess operational vibration impacts as *"all equipment will be located within large concrete structures, any vibration transmitted into the surrounding ground is likely to be negligible, and orders of magnitude lower than would be expected to give rise to nuisance or damage to properties. Similarly, no sources of vibration considered likely to result in potentially significant effects at receptors have been identified for the Off-Site Power Station Facilities"* (Section 9.2.1 of the Scoping Report). The Secretary of State agrees that significant effects from vibration during operation are unlikely and therefore agrees to scope this out.

3.69 The Secretary of State welcomes the production of Environmental Management Plans and recommends that a draft version of the plan is provided with the DCO application and is adequately secured therein.

3.70 Consideration should be given to monitoring noise complaints during construction and when the development is operational.

3.71 The Secretary of State welcomes the proposal within Section 10 of Appendix D of the Scoping Report to assess cumulative effects. The Secretary of State notes the existing power station will be decommissioned and the implications of these activities taking place concurrently with construction and/or operation of the proposed development should be considered. The Applicant should also ensure they consider the cumulative effects of the enabling works and associated development in addition to other plans or projects, which should be agreed with IACC and NRW.

Landscape and Visual (Scoping Report Chapter 10)

3.72 The Applicant's attention is drawn to the comments of the IACC (see Appendix 3 of this Opinion) regarding sources that could be used to define the existing environment.

3.73 The Secretary of State welcomes that the definition of visual receptors, study area and locations of key representative viewpoints will be agreed with IACC and NRW and recommends that any discussions with these parties also seek to agree the assessment methodology and required mitigation measures. The Secretary of State notes the key receptors identified in Section 10.2.4 of the Scoping Report. The Secretary of State recommends that static receptors are presented on a figure within the ES. It is unclear how Dame Sylvia Crowe's landscape design for the existing power station is a receptor and this should be explained within the ES.

3.74 The Scoping Report does not identify how potential landscape and visual impacts resulting from the off-site facilities (i.e. the AECC, ESL and MEEG) will be assessed; the Secretary of State recommends that the assessment methodology for these project elements is also discussed with the relevant bodies.

3.75 Section 10.4.1 of the Scoping Report refers to an overarching study area of 15km and a detailed study area of 6km from the tallest proposed structures. It is unclear how the assessments will differ within the different study areas and this should be clearly explained and justified within the ES.

3.76 The Scoping Report provides a preliminary Zone of Theoretical Visibility (ZTV) for the main power station site. The Secretary of State advises that the ES should describe the model used, provide information on the area covered and the timing of any survey work and methodology used.

3.77 The ES should assess the potential impacts on landscape character.

3.78 The Secretary of State welcomes that the Anglesey AONB has been identified as a receptor within the Scoping Report and refers the Applicant to the comments of the IACC (see Appendix 3 of this Opinion) with regards to assessing potential impacts on this designation.

3.79 Table 6.1 of the Scoping Report also identifies the potential effects of smoke and steam as potential effects listed in EN-1 and EN-6; however these topics have not been considered further in the Scoping Report. The Secretary of State advises that the Applicant gives consideration to the potential impact of smoke and steam on amenity.

3.80 The Secretary of State welcomes the production of a Landscape and Environmental Masterplan (LEMP) covering the Wylfa Newydd Development Area and recommends that a draft is provided with the DCO application. The LEMP should provide details of the earth mounding and woodland planting that is proposed to screen the development including

for example the location, dimensions and details of how long planting would take to establish. The LEMP should include any measures that would be implemented at the off-site facilities i.e. the AECC, ESL and MEEG.

3.81 Cumulative and combined impacts should not be overlooked, in particular the need to consider the potential landscape and visual implications of transmission infrastructure, and the decommissioning works at the existing power station.

Terrestrial and Freshwater Ecology (Scoping Report Chapter 11)

3.82 The Scoping Report identifies the value/sensitivity of statutory and non-statutory designated sites in Table 11.1 and ecological receptors in Table 11.2. The ES should clearly explain how these values/sensitivities have been determined.

3.83 The Scoping Report identifies a study area which includes the Wylfa Newydd Development Area and a buffer zone of approximately 500m. The Secretary of State recommends that the study area is agreed with consultees including IACC and NRW and that it is justified within the ES.

3.84 Section 11.1 of the Scoping Report acknowledges that the chapter focusses on the power station site and states that a similar approach to the assessment will be used to assess the off-site facilities. The Secretary of State welcomes this and expects an assessment of impacts at the AECC, ESL and MEEG to be provided within the ES.

3.85 The Secretary of State notes that extensive ecological surveys have been undertaken to date to inform the baseline and that some further surveys and characterisation studies are proposed for: bats; great crested newts; the Tre'r Gof SSSI; Cae Gwyn SSSI; and Cemlyn Bay SSSI. The ES should detail the methodology, including the timing, of all surveys along with the results. The Applicant should ensure that surveys have been undertaken at an appropriate time of year, including the minimum number of survey visits, in agreement with the relevant statutory nature conservation bodies. Surveys should be undertaken in accordance with recognised best practice guidance.

3.86 The Applicant should agree with NRW and the IACC which sites, habitats and species should be considered to be key ecological receptors.

3.87 The Applicant's attention is drawn to the comments of IACC (see Appendix 3 of this Opinion) identifying Wylfa Head as a Local Nature Reserve.

3.88 The Scoping Report identifies the Llyn Llygeirian SSSI approximately 300m south east of the AECC and ESL site and Llyn Garreg-lwyd SSSI, approximately 700m north-west of the MEEG site. No further reference to these sites has been made in the Scoping Report. The ES should demonstrate how potential impacts on these sites have been considered.

3.89 The Secretary of State concurs with the comments of IACC (see Appendix 3 of this Opinion) regarding the need to consider effects on European sites

in line with the EIA regulations as well as within the HRA and the need to consider the proposed Special Area of Conservation (SAC) and proposed Special Protection Area (SPA) (see the Marine Environment Section of this Opinion for further details).

3.90 Section 11.2.5 of the Scoping Report details a number of species that are considered to be absent from the study area and are therefore not included as ecological receptors. Similarly, Section 11.4.2 of the Scoping Report states that ecological receptor groups given a negligible value (fungi, bryophytes, protected plant species and diatoms) will not be included within the EIA. The Secretary of State recommends that this approach is agreed with relevant consultees including IACC and NRW.

3.91 The Secretary of State welcomes the consideration of the Water Framework Directive (WFD) within the ecological assessment and advises that appropriate cross reference is made to the WFD assessment.

3.92 Section 11.3.2 of the Scoping Report focuses on the potential impacts during the construction phase. The ES should also consider the potential effects during operation, for example but not limited to, disturbance and permanent habitat loss.

3.93 The potential impacts of lighting on ecological receptors during both construction and operation should be assessed within the ES. Appropriate cross reference should be made to the landscape and visual impact assessment.

3.94 The Scoping Report does not identify any specific mitigation measures for ecological receptors. These should be detailed within the ES and adequately secured.

3.95 Section 11.3 of the Scoping Report notes the potential for positive opportunities for enhancement of terrestrial habitats and biodiversity gain. The Secretary of State would welcome the inclusion of any such measures and advises that these are detailed in the ES. The Applicant's attention is drawn to the comments of IACC (see Appendix 3 of this Opinion) in this regard.

3.96 The assessment should take account of impacts on noise, vibration and air quality (including dust), and cross reference should be made to these ES chapters.

3.97 The ES should cross-reference to the Marine Environment chapter, where appropriate.

3.98 The Applicant's attention is drawn to the detailed comments of NRW and IACC regarding assessing impacts on ecology (see Appendix 3 of this Opinion).

Radiological Effects (Scoping Report Chapter 12)

3.99 The Secretary of State welcomes the consideration of the management and disposal of radioactive waste during the operation and decommissioning phases. However, it is unclear how the radiological assessment will be presented as the Scoping Report mainly refers to the production of an EP-RSR application and the Article 37 Submission. The Secretary of State would expect there to be an assessment within the ES itself and the ES should provide details of the assessment methodology and refer to any guidance used.

3.100 Section 12.2 of the Scoping Report refers to radon concentrations on Anglesey however does not identify the source of this information; this should be provided within the ES.

3.101 The Scoping Report states that construction activities would not generate radioactive waste or discharges and as such there is no further consideration of construction activities. The Secretary of State advises that the ES considers the potential for mobilisation of radionuclides during construction works, both terrestrial and within the marine environment.

3.102 The Applicant's attention is drawn to the comments of IACC and NRW (see Appendix 3 of this Opinion) regarding the assessment of radiological issues.

3.103 Limited information is provided within the Scoping Report regarding transportation of fresh fuel and radioactive waste during the operation of the development and how this will be assessed. The ES will need to include available information regarding proposed transport methods, including frequency, likely modes and routes, and an assessment of potential impacts.

Soils and Geology (Scoping Report Chapter 13)

3.104 Section 13.4.1 of the Scoping Report identifies the study area which is also presented on Figure 13.5. It is unclear why this extends 2km upstream of the southern side of the power station, yet 1km to the east and west. This should be clarified within the ES.

3.105 The Secretary of State notes a discrepancy between the stated study area and the ALC survey which was undertaken only within the Wylfa Newydd Development Area (as shown in Figure 13.1). Any departures from the defined study area should be clearly explained within the chapter.

3.106 The Scoping Report identifies a number of areas of potential contamination and states that detailed onshore and offshore ground investigations are being undertaken to inform the assessment of potential effects on soils and geology. Details of these surveys and the results should be included in the ES and possible sources and pathways of contamination should be identified.

3.107 Section 13.2.4 of the Scoping Report identifies designated sites in the vicinity of the proposed development, however it is unclear from the Scoping Report how impacts on these sites will be assessed.

3.108 The ES should consider the potential effects of sterilisation of the Category 2 Aggregate Safeguarding Area.

3.109 It is unclear how the significance of impacts will be assessed. The ES should set out a clear methodology providing this detail with reference to any guidance that is used.

3.110 The Scoping Report provides detail of the ALC in the vicinity of the proposed development however does not set out the survey methodology or how impacts on agricultural land will be assessed. The ES should set out the details of such an assessment.

3.111 Tunnelling would be required to construct the cooling water intake system which would generate spoil. The ES should quantify the volume of material to be excavated and detail where and for how long it would be stored on site prior to removal. The ES should detail how the spoil would be disposed of.

3.112 The Scoping Report states that the MEEG is proposed to be located on land which until recently included facilities for commercial heavy goods vehicle repairs. The ES should assess whether the proposed works at this location could mobilise any contaminants and propose mitigation measures if necessary.

3.113 The ES should consider the potential for cumulative impacts associated with the decommissioning of the existing power station and how these could be managed.

3.114 The Secretary of State welcomes the preparation of a Materials Management Plan, an Environmental Management Plan, a Site Waste Management Plan and a remediation strategy. A draft of these plans should be provided within the ES and they should be suitably secured.

Surface Water and Groundwater (Scoping Report Chapter 14)

3.115 There is considerable overlap between the topic areas in Chapters 14 and 15 of the Scoping Report, for example considering the issue of coastal flooding at Section 14.2.6 of the Scoping Report. The Applicant should carefully consider how to present these overlapping topic areas such that potential effects of the proposed development can be clearly understood, in particular in relation to considering inter-relationship of effects between these topic areas.

3.116 The Secretary of State notes the Applicant's consideration of water body classifications under the WFD as well as the need for a Flood Consequences Assessment (FCA) to accompany the DCO Application. The Scoping Report does not make it specifically clear whether these reports will be standalone, incorporated within the ES or otherwise appended to

the ES. In the case of the WFD, the Secretary of State understands that a WFD compliance assessment report will be prepared as part of the application documents, the Applicant is advised to consult with NRW as to the scope of this assessment and its integration within the EIA as appropriate and is directed to their comments in Appendix 3 of this Opinion in this regard. The Applicant should also consider the most appropriate method of presenting this information and ensure it is appropriately cross-referenced throughout relevant Sections of the ES.

3.117 Section 14.4 of the Scoping Report describes the Applicant's "general approach" to collating baseline data, including various methods of intrusive and desk based data collection, although no further information is provided as to the extent of these surveys or their particular purpose. The Secretary of State would expect to see further details of this baseline data collection as part of the ES either in appendices or otherwise summarised.

3.118 The Applicant refers to the development of a Conceptual Hydrogeological Model and the use of hydrological modelling to assess surface water runoff and flood risk, although no further information is provided. The modelling approach should be agreed with NRW and consider any overlap with the ecological assessments such that it accounts for impacts on designated sites for nature conservation. To this end, the Secretary of State welcomes the Applicants assurance that the surface water modelling assessment will focus on sensitive receptors including SSSIs and SACs (Section 14.4.2 of the Scoping Report).

3.119 Appendix B of the Scoping Report states that, in terms of potable water demand and sewage treatment, the Applicant is (in consultation with Dŵr Cymru Welsh Water (DCWW) and NRW) developing options for meeting these needs. However, limited details are provided on the necessary surface and groundwater abstraction and / or discharges that may be required for the proposed development for both construction and operation. The Secretary of State would expect this detail to be provided in the ES and an assessment of their potential effects in term of the receiving hydrological and ecological environment. Particular attention should be paid to establishing impacts on existing abstractions, given that the proposed development is in an area exempt from groundwater abstraction licensing.

3.120 The ES should also detail how sewage will be treated and the potential impacts of any discharges on the environment during both construction and operation.

Coastal Processes and Coastal Geomorphology (Scoping Report Chapter 15)

3.121 The Applicant has defined a study area within a 5km radius of the Power Station Site. Although a degree of knowledge, modelling and professional judgement has been cited as the reason for definition of the 5km zone, the Secretary of State would expect the ES to include further reasoned justification as to why this is appropriate as well as documented

agreement with statutory consultees to this effect. The Applicant's attention is also drawn to the comments of NRW (see Appendix 3 of this Opinion) in relation to study areas.

3.122 The Scoping Report states that the determination of the significance of effect will be through use of professional judgement, taking into account the value of the receptor and the magnitude of effect using a matrix. The Secretary of State expects that criteria for determining receptor value and magnitude of effect are clearly expressed within the ES and that the application of professional judgement is clearly justified in this respect. The Secretary of State also recommends early agreement with statutory consultees as to the prescription of values to individual receptors.

3.123 The ES should set out the make-up of the cooling water for example its volume and chemical and thermal characteristics.

3.124 The Secretary of State draws the Applicant's attention to TAN14 Coastal Planning (1998), which is omitted from the list of TANs considered relevant to the potential environmental impacts of the proposed development in Section 2.1.2. The Applicant is expected to refer to the guidance within TAN14 during the EIA process and within the ES.

3.125 The FCA will need to overlap and cross refer to both the surface water and coastal processes chapter so as to consider the impacts of the Proposed Development in terms of flooding.

3.126 The Secretary of State would expect the potential impacts of dredging during construction and operation to be assessed as part of the EIA, with mitigation measures proposed where appropriate.

3.127 The Secretary of State draws the Applicant's attention to comments made in respect of consideration of designated sites as part of The Marine Environment chapter of this Scoping Opinion. It is considered that those comments apply equally in the context of the assessment of coastal processes.

The Marine Environment (Scoping Report Chapter 16)

3.128 The Scoping Report identifies the following sites as being "*of relevance to the marine environment*":

- Cemlyn Bay SAC and SSSI;
- Ynys Feurig, Cemlyn Bay and The Skerries SPA;
- Liverpool Bay SPA;
- The proposed Gogledd-orllewin Ynys Môn/Northwest Anglesey SAC; and
- The proposed Gogledd-orllewin Ynys Môn/Northwest Anglesey possible SPA.

3.129 The Secretary of State is unclear about the existence of the sites named as "Northwest Anglesey" SAC and possible SPA. The Secretary of State is aware that NRW is currently consulting on proposals which involve the establishment of three new potential SACs:

- North Anglesey Marine
- West Wales Marine; and
- Bristol Channel Approaches

3.130 The consultation also includes one new proposed SPA and the extension of two existing SPA's:

- Northern Cardigan Bay (new pSPA)
- Skomer, Skokholm and the seas off Pembrokeshire (new pSPA is an extension to an existing SPA)
- Anglesey Terns (new pSPA is an extension to an existing SPA)

3.131 The Applicant should ensure they correctly identify designated sites within the ES and carefully consider the scope of the EIA assessments. The Secretary of State considers that the sites for which formal consultation has begun should be considered within the assessment. The Secretary of State also refers the Applicant to the consultation response from NRW (see Appendix 3 of this Scoping Opinion) in respect of designated sites that should be included in the assessment.

3.132 A degree of professional judgement has been applied in defining a study area of 5km from the site to inform survey site selection. It is unclear as to whether the proposed study area of 5km is only to inform the survey effort (as implied by Section 16.4.1 of the Scoping Report) or whether the Applicant is proposing that this forms the assessment area for the EIA. The Secretary of State considers that the zone of impact of the proposed development (in terms of hydrodynamics and sediment transport) may be greater than 5km when considering all of the proposed offshore structures.

3.133 The Secretary of State would expect to see technical justification of the defined study areas and survey methodologies with particular reference to designated sites and agreement with the statutory nature conservation bodies.

3.134 The Applicant should explain any variations in study areas across the different aspects of the marine environment that are being considered (as discussed at Sections 16.2.1 – 16.2.8 of the Scoping Report).

3.135 Section 16.2.4 of the Scoping Report states 'numerous techniques' were used for fish surveys. The Secretary of State will expect the ES to include sufficient detail regarding all survey data and modelling used in the assessment so as to understand their bearing in the reporting of impacts identified. The Secretary of State also expects to see evidence of agreement with IACC and/or NRW as to survey methodologies, survey

currency and modelling methodologies relied upon as part of the EIA evidence base.

3.136 The Secretary of State expects to see sufficient detail in the description of the project in respect of the key marine elements of the scheme namely the breakwaters, MOLF, dredging activities, and the cooling water intake and outfall. Where flexibility is to be retained or uncertainty remains as to the detailed design of these aspects, this should be clearly presented and there should be a clear explanation of how a 'worst case' approach to the assessment has been adopted. The ES should also be clear in respect of differentiating between direct and indirect effects on the marine environment, particularly in the context of habitat loss and/ or alteration.

3.137 The potential for construction activities to produce sediment plumes and indirectly affect foraging birds should be considered.

3.138 The ES should consider the potential impacts on Cemaes Bay as a European designated Bathing Water.

3.139 The Secretary of State also expects that, although some of the works proposed below the high water mark will require a marine licence, mitigation measures for such works should be considered and assessed as part of the EIA.

Archaeology and Cultural Heritage (Scoping Report Chapter 17)

3.140 The Secretary of State notes that the study area for terrestrial archaeology, historic buildings and the historic landscape has been defined as a circular area with a 6km radius extending from the centre point of the Existing Power Station. The Secretary of State recommends the Applicant considers the need for bespoke study areas for each of these components of the archaeology and cultural heritage assessment. The defined area in Figure 17.1 of the Scoping Report does not account for the proposed off-site facilities (although the Applicant acknowledges at Section 17.2 of the Scoping Report that further archaeological surveys are scheduled for the off-site locations). The definition of any such study areas should be agreed with the relevant consultees including Gwynedd Archaeological Planning Service (GAPS) and IACC.

3.141 In terms of historic landscapes, the Secretary of State finds no reference within the Scoping Report as to the need for an Assessment of the Significance of the Impact of Development on Historic Landscapes (ASIDOHL2). The need for and scope of such an assessment should be agreed with the relevant local authorities and the Gwynedd Archaeological Trust, particularly given the nature and value of the designated heritage assets identified by the Applicant in Tables 17.1 and 17.2 of the Scoping Report.

3.142 Any archaeological mitigation measures and/or management plans should also be cross referred with others including the LEMP and Construction

Environmental Management Plan (CEMP) such that mitigation measures are complimentary and not contradictory.

3.143 At Section 17.3.2 of the Scoping Report, the Applicant acknowledges that construction activities associated with the breakwater and MOLF have the potential to remove any surviving remains of the wreck of the Mary Sutherland (as well as other unknown archaeological remains). The Secretary of State would expect to see specific mitigation measures proposed in relation to this feature as part of any wider marine archaeological mitigation plan.

3.144 The Secretary of State welcomes the consideration of potential visual effects on the setting of Scheduled Monuments and archaeological remains (with reference to the ZTV as discussed in Chapter 10 of the Scoping Report). The Applicant's attention is drawn to the comments of IACC (see Appendix 3 of this Opinion) in this regard. The inter-relationship between landscape and visual effect and heritage assets will need to be clearly presented as part of the ES, including consideration of cumulative developments.

3.145 In agreement with the GAPS, the Applicant is undertaking investigations to establish the archaeological potential of the proposed development site and the significance of any assets with a view to their preservation (if required) before works take place. The Secretary of State understands from Section 17.4.2 of the Scoping Report that the potential for direct impacts to archaeological remains within the Wylfa Newydd site will have been identified and mitigated under the site preparation and clearance works and therefore prior to commencement of works under the DCO. The archaeological aspects of the site preparation and clearance works as 'enabling works' in advance of any works authorised under the DCO should be clearly explained as part of the ES for the proposed development and their bearing on the assessment of effects made clear.

Socio-Economics (Scoping Report Chapter 18)

3.146 Section 18.3 of the Scoping Report states that the assessment will be based on a construction workforce that is anticipated to peak at between 8,000 and 10,000 workers, and an operational workforce of about 850 workers. The Applicant will need to ensure the assessment provides a breakdown of the employment figures and assumptions used.

3.147 The Secretary of State will expect the assessment of socio-economic impacts to focus on those aspects of work that are the subject of the DCO application and distinguish those that are not (e.g. enabling works and associated development). It is expected that the impacts of the wider project (i.e. inclusive of the enabling works and associated development) will need to be considered as part of the assessment of cumulative effects.

3.148 The Secretary of State welcomes that local and regional consequences of construction, operation and decommissioning will be accounted for in the assessment in accordance with NPS EN-6.

3.149 In respect of the discrete study areas as described in Table 18.1 of the Scoping Report, the Applicant is advised to carefully consider the presentation of the maps and figures and interpretation of these study areas so that the outcome of the assessment is clearly presented in the ES. The Applicant is encouraged to make use of summary tables in this respect so as to clearly present the results across the impact assessment of the different geographical study areas.

3.150 The Secretary of State will expect to see detailed descriptions of both the sensitivity and magnitude of change criteria for each of the defined study areas are identified receptors therein. Evidence of agreement of these criteria with the local planning authorities and other key stakeholders should be presented as part of the ES.

3.151 The Secretary of State notes that a Welsh Language Impact Assessment (WLIA) will be undertaken in parallel to the EIA (Section 7.3.2 of the Scoping Report). The Secretary of State notes a high degree of overlap between the proposed socio-economic assessment and the evidence base that the Applicant is proposing to inform the assessment as well as the aspects of community life against which the impacts will be assessed. As such, the Secretary of State would expect to see clear cohesion between these assessments and appropriate cross referencing between data analysis and conclusions. The Secretary of State draws the Applicant's attention to IACC's comments on the importance of the Welsh Language being considered throughout the EIA process (see Appendix 3 of this Scoping Opinion).

Public Access and Recreation (Scoping Report Chapter 19)

3.152 Given the proposed construction programme as shown in Figure 3.4, the Secretary of State would expect the assessment of any 'temporary' impacts on public and recreation assets to be aligned with the work stages and timescales outlined in the construction programme. Residual impacts should also be reported bearing this in mind.

3.153 The Applicant refers to possible enhancements and mitigation measures being identified (for example in relation to re-routing of public rights of way, provision of a visitor centre and the like). The Applicant will need to consider how these can be secured and if not, the extent to which they can be relied upon as mitigation for significant effects identified in the EIA (if they are to be delivered under separate consenting processes). Any mitigation measures proposed in terms of public access and recreation should be considered and assessed in the context of other measures that may be proposed to mitigate any adverse environmental effects identified in other topic areas (e.g. ecological management / enhancement plans and landscaping strategies).

3.154 The effects of the off-site facilities on public access and recreation should also be considered. The enabling works, associated development and highway improvement works identified in Figure 1.1 of the Scoping Report should also be considered in terms of cumulative effects or otherwise.

3.155 The Secretary of State recognises the importance of the Wales Coastal Path as a receptor and the potential need for its temporary diversion during the construction phase and permanent diversion during the operational phase. The Secretary of State will expect to see consideration of suitable mitigation measures with regard to the routing of the coast path and strongly encourages further consultation with NRW and IACC in this respect.

3.156 The Secretary of State also expects that the assessment considers users of the National Trust land and other areas for public recreation (in addition to PRoW). The ES should also consider the potential for inter-related environmental effects on these receptors such as landscape and visual, noise and air quality effects.

3.157 The Applicant states that the significance of effects on public access and recreation will be based on consideration of the value of the receptor and the magnitude of change predicted. The Secretary of State expects that the impact assessment criteria will be presented and explained so as to understand how they are applicable in the context of the three sub-topic areas of the assessment as described in Table 19.1 of the Scoping Report. The Applicant is also encouraged to consider the need for separate criteria for these as appropriate. Where professional judgement is exercised in tandem with a matrix-based approach, this must be fully explained with qualified supporting information and analysis.

Traffic and Transport (Scoping Report Chapter 20)

3.158 The Secretary of State welcomes the Applicant's intention to consult further on the scope and coverage of the traffic and transport assessments in association with the local highways authority (IACC) and the Welsh Government. Given the scale and duration of the proposed developments potential traffic and transport impacts, the Secretary of State expects the Applicant's consultation with local highways authorities to extend beyond IACC alone. The Secretary of State would expect documented evidence of any agreements reached in terms of figures used in the assessment (based on worst case assumptions), extent of study areas, assessment methodologies and mitigation measures.

3.159 The Secretary of State welcomes the preparation of an Integrated Traffic and Transport Strategy (ITTS) to support the Wylfa Newydd Project as a whole and will expect the Applicant to clearly explain the relationship between this document and those prepared in assessing the transport impacts of the DCO application. Similarly, the Applicant describes that a Freight Management Strategy and overarching travel plan will be prepared as part of the EIA process for the DCO. The Secretary of State will need to understand the relationship between these documents and the ITTS and their overall contribution to the residual effects reported by the Applicant in the DCO ES.

3.160 The Applicant has outlined a number of 'strategic measures' that have been incorporated into the design to reduce the level of transport impacts associated with the construction phase, including:

- MOLF;
- Logistics Centre;
- Temporary Workers Accommodation;
- Park and Ride services;
- Dedicated bus services; and
- A5025 Highway Improvements.

3.161 The Secretary of State notes that of these 'strategic measures', only the MOLF (which will enable the transport of construction materials by sea) will be included as part of the DCO application, with all of the other measures being proposed as associated development to be consented separately. The Secretary of State will need to understand the extent to which these measures are relied upon to mitigate potential significant effects in the EIA and, if applicable, the significance of residual effects in the event that they cannot be relied upon.

3.162 At Section 20.4.4 of the Scoping Report, the Applicant describes the baseline traffic scenario including three committed developments that will be considered as part of the baseline scenario. The Secretary of State expects this position to be kept under review as to whether other 'committed' developments should be included in the baseline traffic data as opposed to being included in any future traffic impact assessment scenarios.

3.163 Section 20.4.7 of the Scoping Report presents the proposed methodology for the assessment of shipping including estimating the number of ships using the MOLF during construction. No reference is made to the assessment of shipping during the operation of the proposed development. The Secretary of State would expect to see justification of a 'worst case' approach to the assessment where estimates are to be relied upon. Equally, the assessment of road traffic impacts should be based on justified worst case assumptions in terms of the numbers of road-based deliveries that shipping would negate. The Secretary of State expects that any assessment of construction and operational shipping impacts considers any effects on the commercial operation of Holyhead Port.

Cumulative Impacts (Scoping Report Chapter 21)

3.164 The Applicant is referred to additional guidance on the assessment of cumulative effects published by the Planning Inspectorate in Advice note 17[2].

3.165 The Secretary of State welcomes the approach in defining a 'long list' of reasonably foreseeable future projects (RFFP) and welcomes that the Applicant is anticipating 'significant' stakeholder engagement on this list to ensure that all relevant projects are captured. The Secretary of State considers that the spatial relationship between the proposed development and RFFP's would be best illustrated on plans and figures to demonstrate if/ where projects have been screened in or out of consideration within the assessment. The Secretary of State also encourages the Applicant to agree a 'cut-off' point with relevant stakeholders in the run up to submission such that assessments can be completed against an agreed list of projects at an agreed point in time.

3.166 Aside from panel 1, Figure 21.2 doesn't include the off-site facilities in the definition of study areas or buffer zones. The Secretary of State expects the cumulative impact assessment zones to include consideration of all aspects of the development.

3.167 Table 21.3 of the Scoping Report has scoped out a number of projects from the cumulative impact assessment on the basis that the construction phase is not expected to overlap. Where this is proposed, the Secretary of State will expect to see further justification as necessary that there are not any potential operational impacts of those other developments that could interact with either the construction or the operation of the power station.

3.168 The Applicant has defined the terms intra-development, intra-project and inter-project cumulative effects, and the Secretary of State stresses the importance that these terms are applied consistently and with clarity of presentation such that the impacts reported in the ES can be understood. The Secretary of State encourages the use of summary tables and figures in this respect.

3.169 The Secretary of State refers to previous comments regarding the use of the 'project' and advises the Applicant avoids using this terminology to refer to the overall Wylfa Newydd Scheme in the cumulative assessment.

[2] Advice note seventeen: Cumulative effects assessment, available from http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

4 OTHER INFORMATION

4.1 This Section does not form part of the Secretary of State's Opinion as to the information to be provided in the environmental statement. However, it does respond to other issues that the Secretary of State has identified which may help to inform the preparation of the application for the DCO.

Pre-application Prospectus

4.2 The Planning Inspectorate offers a service for applicants at the pre-application stage of the nationally significant infrastructure planning process. Details are set out in the prospectus 'Pre-application service for NSIPs'[3]. The prospectus explains what the Planning Inspectorate can offer during the pre-application phase and what is expected in return. The Planning Inspectorate can provide advice about the merits of a scheme in respect of national policy; can review certain draft documents; as well as advice about procedural and other planning matters. Where necessary a facilitation role can be provided. The service is optional and free of charge.

4.3 The level of pre-application support provided by the Planning Inspectorate will be agreed between an applicant and the Inspectorate at the beginning of the pre-application stage and will be kept under review.

Preliminary Environmental Information

4.4 Consultation forms a crucial aspect of Environmental Impact Assessment. As part of their pre-application consultation duties, applicants are required to prepare a Statement of Community Consultation (SoCC). This sets out how the local community will be consulted about the proposed development. The SoCC must state whether the proposed development is EIA development and if it is, how the applicant intends to publicise and consult on PEI. Further information in respect of PEI may be found in Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping.

Habitats Regulations Assessment (HRA)

4.5 The Secretary of State notes that European sites are located close to the proposed development, including Cemlyn Bay SAC and Ynys Feurig, Cemlyn Bay and The Skerries SPA. The Secretary of State also recognises NRW's ongoing consultation process with regard to the establishment of three new SAC's (currently designated as pSAC's), one new pSPA and the extension of two existing SPA's as described at Section 3 of this Scoping Opinion. The applicant is reminded that (as dictated by Government policy) possible SACs and SPAs should be treated as if they were formally

[3] The prospectus is available from: http://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/

designated (in terms of assessment of new activities) and afforded legal protection under the Habitats Directive[4].

4.6 The Applicant's attention is drawn to Volume 2 of NPS EN-6 (paragraph C.9.52) which states that a detailed assessment of the groundwater connections between Llyn Dinam SAC and the Wylfa site should be considered at the detailed project stage.

4.7 It is the applicant's responsibility to provide sufficient information to the Competent Authority (CA) to enable them to carry out a HRA if required. The applicant should note that the CA is the Secretary of State.

4.8 The applicant should note The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (The APFP Regulations) and the need to include information identifying European sites to which the Habitats Regulations applies or any Ramsar site or potential SPA which may be affected by a proposal. The submitted information should be sufficient for the competent authority to make an appropriate assessment (AA) of the implications for the site if required by Regulation 61(1) of the Habitats Regulations.

4.9 The report to be submitted under Regulation 5(2)(g) of the APFP Regulations with the application must deal with two issues: the first is to enable a formal assessment by the CA of whether there is a likely significant effect; and the second, should it be required, is to enable the carrying out of an AA by the CA.

4.10 When considering aspects of the environment likely to be affected by the proposed development; including flora, fauna, soil, water, air and the inter-relationship between these, consideration should be given to the designated sites in the vicinity of the proposed development.

4.11 Further information with regard to the HRA process is contained within Planning Inspectorate's Advice Note 10 available on the National Infrastructure pages of the Planning Portal website.

Plan To Agree Habitats Information

4.12 A Plan may be prepared to agree upfront what information in respect of Habitats Regulations the applicant needs to supply to the Planning Inspectorate as part of a DCO application. This is termed an Evidence Plan for proposals in England or in both England and Wales, but a similar approach can be adopted for proposals only in Wales. For ease these are all termed 'evidence plans' here.

4.13 An evidence plan will help to ensure compliance with the Habitats Regulations. It will be particularly relevant to NSIPs where impacts may be complex, large amounts of evidence may be needed or there are a number

[4] TAN5 5: Nature Conservation And Planning , paragraphs 5.2.2 and 5.2.3

of uncertainties. It will also help applicants meet the requirement to provide sufficient information (as explained in Advice Note 10) in their application, so the Examining Authority can recommend to the Secretary of State whether or not to accept the application for examination and whether an appropriate assessment is required.

4.14 Any applicant of a proposed NSIP can request an evidence plan. A request for an evidence plan should be made at the start of pre-application (eg after notifying the Planning Inspectorate on an informal basis) by contacting NRW.

4.15 The Secretary of State understands that, in the case of the Wylfa Newydd project, the applicant and NRW have been in discussion since September 2015 with a view to the adoption of a non-statutory, voluntary approach that is broadly analogous to, and applies the principles of an 'Evidence Plan'. This approach is welcomed by the Secretary of State.

Sites of Special Scientific Interest (SSSIs)

4.16 The Secretary of State notes that a number of SSSIs are located close to or within the proposed development. Where there may be potential impacts on the SSSIs, the Secretary of State has duties under Sections 28(G) and 28(I) of the Wildlife and Countryside Act 1981 (as amended) (the W&C Act). These are set out below for information.

4.17 Under s28(G), the Secretary of State has a general duty '… to take reasonable steps, consistent with the proper exercise of the authority's functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special scientific interest'.

4.18 Under s28(I), the Secretary of State must notify the relevant nature conservation body (NCB), NRW in this case, before authorising the carrying out of operations likely to damage the special interest features of a SSSI. Under these circumstances 28 days must elapse before deciding whether to grant consent, and the Secretary of State must take account of any advice received from the NCB, including advice on attaching conditions to the consent. The NCB will be notified during the examination period.

4.19 If applicants consider it likely that notification may be necessary under s28(I), they are advised to resolve any issues with the NCB before the DCO application is submitted to the Secretary of State. If, following assessment by applicants, it is considered that operations affecting the SSSI will not lead to damage of the special interest features, applicants should make this clear in the ES. The application documents submitted in accordance with Regulation 5(2)(l) could also provide this information. Applicants should seek to agree with the NCB the DCO requirements which will provide protection for the SSSI before the DCO application is submitted.

European Protected Species (EPS)

4.20 Applicants should be aware that the decision maker under the Planning Act 2008 (PA 2008) has, as the CA, a duty to engage with the Habitats Directive. Where a potential risk to a European Protected Species (EPS) is identified, and before making a decision to grant development consent, the CA must, amongst other things, address the derogation tests in Regulation 53 of the Habitats Regulations. Therefore the applicant may wish to provide information which will assist the decision maker to meet this duty.

4.21 If an applicant has concluded that an EPS licence is required the ExA will need to understand whether there is any impediment to the licence being granted. The decision to apply for a licence or not will rest with the applicant as the person responsible for commissioning the proposed activity by taking into account the advice of their consultant ecologist.

4.22 Applicants are encouraged to consult with NRW and, where required, to agree appropriate requirements to secure necessary mitigation. It would assist the examination if applicants could provide, with the application documents, confirmation from NRW whether any issues have been identified which would prevent the EPS licence being granted.

4.23 Generally, NRW are unable to grant an EPS licence in respect of any development until all the necessary consents required have been secured in order to proceed. For NSIPs, NRW will assess a draft licence application in order to ensure that all the relevant issues have been addressed. Within 30 working days of receipt, NRW will either issue 'a letter of no impediment' stating that it is satisfied, insofar as it can make a judgement, that the proposals presented comply with the regulations or will issue a letter outlining why NRW consider the proposals do not meet licensing requirements and what further information is required before a 'letter of no impediment' can be issued. The applicant is responsible for ensuring draft licence applications are satisfactory for the purposes of informing formal pre-application assessment by NRW.

4.24 Ecological conditions on the site may change over time. It will be the applicant's responsibility to ensure information is satisfactory for the purposes of informing the assessment of no detriment to the maintenance of favourable conservation status (FCS) of the population of EPS affected by the proposals. Applicants are advised that current conservation status of populations may or may not be favourable. Demonstration of no detriment to favourable populations may require further survey and/or submission of revised short or long term mitigation or compensation proposals.

4.25 In Wales, the focus is on evidencing the demonstration of no detriment to the maintenance of favourable conservation status (FCS) of the population or colony of EPS potentially affected by the proposals. This approach will help to ensure no delay in issuing the licence should the DCO application be successful.

4.26 In Wales, assistance may be obtained from NRW's Species Teams. These Teams provide advice on a range of issues concerning EPS including advice on compensation site design, measures to mitigate incidental capture/killing, evidencing compliance and post project surveillance. The service is free of charge and entirely voluntary. Species Teams can be contacted via NRW's Enquiry Service[5].

Other Regulatory Regimes

4.27 The Secretary of State recommends that the applicant should state clearly what regulatory areas are addressed in the ES and that the applicant should ensure that all relevant authorisations, licences, permits and consents that are necessary to enable operations to proceed are described in the ES. Also it should be clear that any likely significant effects of the proposed development which may be regulated by other statutory regimes have been properly taken into account in the ES.

4.28 It will not necessarily follow that the granting of consent under one regime will ensure consent under another regime. For those consents not capable of being included in an application for consent under the PA 2008, the Secretary of State will require a level of assurance or comfort from the relevant regulatory authorities that the proposal is acceptable and likely to be approved, before they make a recommendation or decision on an application. The applicant is encouraged to make early contact with other regulators. Information from the applicant about progress in obtaining other permits, licences or consents, including any confirmation that there is no obvious reason why these will not subsequently be granted, will be helpful in supporting an application for development consent to the Secretary of State.

The Environmental Permitting Regulations and the Water Resources Act

Environmental Permitting Regulations 2010

4.29 The Environmental Permitting Regulations 2010 (EPR 10) require operators of certain facilities, which could harm the environment or human health, to obtain permits from NRW. Environmental permits can combine several activities into one permit. There are standard permits supported by 'rules' for straightforward situations and bespoke permits for complex situations. For further information, please see the Government's advice on determining the need for an environmental permit[6].

4.30 NRW's environmental permits cover:

- Industry regulation;

[5] Further information is available from: http://naturalresources.wales/apply-and-buy/protected-species-licensing/european-protected-species-licensing/?lang=en

[6] Available from: https://www.gov.uk/environmental-permit-check-if-you-need-one

- Waste management (waste treatment, recovery or disposal operations);
- Discharges to surface water;
- Groundwater activities; and
- Radioactive substances activities.

4.31 Characteristics of environmental permits include:

- They are granted to operators (not to land);
- They can be revoked or varied by the NRW;
- Operators are subject to tests of competence;
- Operators may apply to transfer environmental permits to another operator (subject to a test of competence); and
- Conditions may be attached.

The Water Resources Act 1991

4.32 Under the Water Resources Act 1991 (as amended), anyone who wishes to abstract more than 20m^3/day of water from a surface source such as a river or stream or an underground source, such as an aquifer, will normally require an abstraction licence from the NRW. For example, an abstraction licence may be required to abstract water for use in cooling at a power station. An impoundment licence is usually needed to impede the flow of water, such us in the creation of a reservoir or dam, or construction of a fish pass.

4.33 Abstraction licences and impoundment licences are commonly referred to as 'water resources licences'. They are required to ensure that there is no detrimental impact on existing abstractors or the environment. For further information, please see the NRW's guidance form on applying for a full, transfer or impounding licence[7]:

4.34 Characteristics of water resources licences include:

- They are granted to licence holders (not to land);
- They can be revoked or varied;
- They can be transferred to another licence holder; and
- In the case of abstraction licences, they are time limited.

[7] Available from: https://naturalresources.wales/apply-for-a-permit/water-abstraction-licences-and-impoundment-licences/apply-for-a-water-abstraction-or-impoundment-licence/?lang=en

Role of the Applicant

4.35 It is the responsibility of applicants to identify whether an environmental permit and / or water resource licence is required from the NRW before an NSIP can be constructed or operated. Failure to obtain the appropriate consent(s) is an offence.

4.36 NRW allocates a limited amount of pre-application advice for environmental permits and water resources licences free of charge. Further advice can be provided, but this will be subject to cost recovery.

4.37 NRW encourages applicants to engage with them early in relation to the requirements of the application process. Where a project is complex or novel, or requires a Habitats Risk Assessment, applicants are encouraged to "parallel track" their applications to the NRW with their DCO applications to the Planning Inspectorate. Further information on the NRW's role in the infrastructure planning process is available in Annex A of the Planning Inspectorate's Advice note eleven (working with public bodies in the infrastructure planning process)[8]

4.38 When considering the timetable to submit their applications, applicants should bear in mind that the NRW will not be in a position to provide a detailed view on the application until it issues its draft decision for public consultation (for sites of high public interest) or its final decision. Therefore the applicant should ideally submit its application sufficiently early so that the NRW is at this point in the determination by the time the Development Consent Order reaches examination.

4.39 It is also in the interests of an applicant to ensure that any specific requirements arising from their permit or licence are capable of being carried out under the works permitted by the DCO. Otherwise there is a risk that requirements could conflict with the works which have been authorised by the DCO (e.g. a stack of greater height than that authorised by the DCO could be required) and render the DCO impossible to implement.

Health Impact Assessment

4.40 The Secretary of State notes that the applicant intends to submit a stand-alone Health Impact Assessment (HIA). The applicant should have regard to the responses received from the relevant consultees regarding health, and in particular to the comments from Public Health England (see Appendix 3). The methodology for the HIA should be agreed with the relevant statutory consultees and take into account mitigation measures for acute risks.

[8] Available from: http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

Transboundary Impacts

4.41 The Secretary of State notes that the Scoping Report has acknowledged the potential for transboundary impacts and that the potential for transboundary environmental effects will be presented in the DCO application. The applicant should provide to the Secretary of State as soon as possible any additional available information about potential significant trans-boundary effects and identify the affected state(s). In order to ensure the efficient and effective examination of applications within the statutory timetable under Section 98 of the PA 2008, it is important that this information is made available at the earliest opportunity to facilitate timely consultations, if required, with other EEA States in accordance with Regulation 24.

4.42 The ES will also need to address this matter in each topic area and summarise the position on trans-boundary effects of the proposed development, taking into account inter-relationships between any impacts in each topic area.

APPENDIX 1 – PRESENTATION OF THE ENVIRONMENTAL STATEMENT

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (SI 2264) (as amended) sets out the information which must be provided for an application for a development consent order (DCO) for nationally significant infrastructure under the Planning Act 2008. Where required, this includes an environmental statement. Applicants may also provide any other documents considered necessary to support the application. Information which is not environmental information need not be replicated or included in the ES.

An environmental statement (ES) is described under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) as a statement:

(a) *that includes such of the information referred to in Part 1 of Schedule 4 as is reasonably required to assess the environmental effects of the development and of any associated development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile; but*

(b) *that includes at least the information required in Part 2 of Schedule 4.*

(EIA Regulations Regulation 2)

The purpose of an ES is to ensure that the environmental effects of a proposed development are fully considered, together with the economic or social benefits of the development, before the development consent application under the Planning Act 2008 is determined. The ES should be an aid to decision making.

The Secretary of State advises that the ES should be laid out clearly with a minimum amount of technical terms and should provide a clear objective and realistic description of the likely significant impacts of the proposed development. The information should be presented so as to be comprehensible to the specialist and non-specialist alike. The Secretary of State recommends that the ES be concise with technical information placed in appendices.

ES Indicative Contents

The Secretary of State emphasises that the ES should be a 'stand alone' document in line with best practice and case law. The EIA Regulations Schedule 4, Parts 1 and 2, set out the information for inclusion in environmental statements.

Schedule 4 Part 1 of the EIA Regulations states this information includes:

17. Description of the development, including in particular—

(a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;

(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 by the applicant 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 the architectural and archaeological 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;

(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.

22. A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.

23. An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

(EIA Regulations Schedule 4 Part 1)

The content of the ES must include as a minimum those matters set out in Schedule 4 Part 2 of the EIA Regulations. This includes the consideration of 'the main alternatives studied by the applicant' which the Secretary of State recommends could be addressed as a separate chapter in the ES. Part 2 is included below for reference:

24. A description of the development comprising information on the site, design and size of the development

25. A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects

26. The data required to identify and assess the main effects which the development is likely to have on the environment

27. An outline of the main alternatives studies by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects, and

28. A non-technical summary of the information provided [under the four paragraphs of Schedule 4 part 2 above].

(EIA Regulations Schedule 4 Part 2)

Traffic and transport is not specified as a topic for assessment under Schedule 4; although in line with good practice the Secretary of State considers it is an important consideration *per se*, as well as being the source of further impacts in terms of air quality and noise and vibration.

Balance

The Secretary of State recommends that the ES should be balanced, with matters which give rise to a greater number or more significant impacts being given greater prominence. Where few or no impacts are identified, the technical Section may be much shorter, with greater use of information in appendices as appropriate.

The Secretary of State considers that the ES should not be a series of disparate reports and stresses the importance of considering inter-relationships between factors and cumulative impacts.

Scheme Proposals

The scheme parameters will need to be clearly defined in the draft DCO and therefore in the accompanying ES which should support the application as described. The Secretary of State is not able to entertain material changes to a project once an application is submitted. The Secretary of State draws the attention of the applicant to the DCLG and the Planning Inspectorate's published advice on the preparation of a draft DCO and accompanying application documents.

Flexibility

The Secretary of State acknowledges that the EIA process is iterative, and therefore the proposals may change and evolve. For example, there may be changes to the scheme design in response to consultation. Such changes should be addressed in the ES. However, at the time of the application for a DCO, any proposed scheme parameters should not be so wide ranging as to represent effectively different schemes.

It is a matter for the applicant, in preparing an ES, to consider whether it is possible to assess robustly a range of impacts resulting from a large number of undecided parameters. The description of the proposed development in the ES must not be so wide that it is insufficiently certain to comply with requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations.

The Rochdale Envelope principle *(see R v Rochdale MBC ex parte Tew (1999) and R v Rochdale MBC ex parte Milne (2000))* is an accepted way of dealing with uncertainty in preparing development applications. The applicant's attention is drawn to the Planning Inspectorate's Advice Note 9 'Rochdale Envelope' which is available on the Advice Note's page of the National Infrastructure Planning website.

The applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the scheme have yet to be finalised and provide the reasons. Where some flexibility is sought and the precise details are not known, the applicant should assess the maximum potential adverse impacts the project could have to ensure that the project as it may be constructed has been properly assessed.

The ES should be able to confirm that any changes to the development within any proposed parameters would not result in significant impacts not previously identified and assessed. The maximum and other dimensions of the proposed development should be clearly described in the ES, with appropriate justification. It will also be important to consider choice of materials, colour and the form of the structures and of any buildings. Lighting proposals should also be described.

Scope

The Secretary of State recommends that the physical scope of the study areas should be identified under all the environmental topics and should be sufficiently robust in order to undertake the assessment. The extent of the study areas should be on the basis of recognised professional guidance, whenever such guidance is available. The study areas should also be agreed with the relevant consultees and local authorities and, where this is not possible, this should be stated clearly in the ES and a reasoned justification given. The scope should also cover the breadth of the topic area and the temporal scope, and these aspects should be described and justified.

Physical Scope

In general the Secretary of State recommends that the physical scope for the EIA should be determined in the light of:

- The nature of the proposal being considered;
- The relevance in terms of the specialist topic;
- The breadth of the topic;
- The physical extent of any surveys or the study area; and
- The potential significant impacts.

The Secretary of State recommends that the physical scope of the study areas should be identified for each of the environmental topics and should be sufficiently robust in order to undertake the assessment. This should include at least the whole of the application site, and include all offsite works. For certain topics, such as landscape and transport, the study area will need to be wider. The extent of the study areas should be on the basis of recognised professional guidance and best practice, whenever this is available, and determined by establishing the physical extent of the likely impacts. The study areas should also be agreed with the relevant consultees and, where this is not possible, this should be stated clearly in the ES and a reasoned justification given.

Breadth of the Topic Area

The ES should explain the range of matters to be considered under each topic and this may respond partly to the type of project being considered. If the range considered is drawn narrowly then a justification for the approach should be provided.

Temporal Scope

The assessment should consider:

- Environmental impacts during construction works;
- Environmental impacts on completion/operation of the proposed development;
- Where appropriate, environmental impacts a suitable number of years after completion of the proposed development (for example, in order to allow for traffic growth or maturing of any landscape proposals); and
- Environmental impacts during decommissioning.

In terms of decommissioning, the Secretary of State acknowledges that the further into the future any assessment is made, the less reliance may be placed on the outcome. However, the purpose of such a long term assessment, as well as to enable the decommissioning of the works to be taken into account, is to encourage early consideration as to how

structures can be taken down. The purpose of this is to seek to minimise disruption, to re-use materials and to restore the site or put it to a suitable new use. The Secretary of State encourages consideration of such matters in the ES.

The Secretary of State recommends that these matters should be set out clearly in the ES and that the suitable time period for the assessment should be agreed with the relevant statutory consultees.

The Secretary of State recommends that throughout the ES a standard terminology for time periods should be defined, such that for example, 'short term' always refers to the same period of time.

Baseline

The Secretary of State recommends that the baseline should describe the position from which the impacts of the proposed development are measured. The baseline should be chosen carefully and, whenever possible, be consistent between topics. The identification of a single baseline is to be welcomed in terms of the approach to the assessment, although it is recognised that this may not always be possible.

The Secretary of State recommends that the baseline environment should be clearly explained in the ES, including any dates of surveys, and care should be taken to ensure that all the baseline data remains relevant and up to date.

For each of the environmental topics, the data source(s) for the baseline should be set out together with any survey work undertaken with the dates. The timing and scope of all surveys should be agreed with the relevant statutory bodies and appropriate consultees, wherever possible.

The baseline situation and the proposed development should be described within the context of the site and any other proposals in the vicinity.

Identification of Impacts and Method Statement

Legislation and Guidelines

In terms of the EIA methodology, the Secretary of State recommends that reference should be made to best practice and any standards, guidelines and legislation that have been used to inform the assessment. This should include guidelines prepared by relevant professional bodies.

In terms of other regulatory regimes, the Secretary of State recommends that relevant legislation and all permit and licences required should be listed in the ES where relevant to each topic. This information should also be submitted with the application in accordance with the APFP Regulations.

In terms of assessing the impacts, the ES should approach all relevant planning and environmental policy – local, regional and national (and where appropriate international) – in a consistent manner.

Assessment of Effects and Impact Significance

The EIA Regulations require the identification of the 'likely significant effects of the development on the environment' (Schedule 4 Part 1 paragraph 20).

As a matter of principle, the Secretary of State applies the precautionary approach to follow the Court's reasoning in judging 'significant effects'. In other words 'likely to affect' will be taken as meaning that there is a probability or risk that the proposed development will have an effect, and not that a development will definitely have an effect.

The Secretary of State considers it is imperative for the ES to define the meaning of 'significant' in the context of each of the specialist topics and for significant impacts to be clearly identified. The Secretary of State recommends that the criteria should be set out fully and that the ES should set out clearly the interpretation of 'significant' in terms of each of the EIA topics. Quantitative criteria should be used where available. The Secretary of State considers that this should also apply to the consideration of cumulative impacts and impact inter-relationships.

The Secretary of State recognises that the way in which each element of the environment may be affected by the proposed development can be approached in a number of ways. However it considers that it would be helpful, in terms of ease of understanding and in terms of clarity of presentation, to consider the impact assessment in a similar manner for each of the specialist topic areas. The Secretary of State recommends that a common format should be applied where possible.

Inter-relationships between environmental factors

The inter-relationship between aspects of the environments likely to be significantly affected is a requirement of the EIA Regulations (see Schedule 4 Part 1 of the EIA Regulations). These occur where a number of separate impacts, e.g. noise and air quality, affect a single receptor such as fauna.

The Secretary of State considers that the inter-relationships between factors must be assessed in order to address the environmental impacts of the proposal as a whole. This will help to ensure that the ES is not a series of separate reports collated into one document, but rather a comprehensive assessment drawing together the environmental impacts of the proposed development. This is particularly important when considering impacts in terms of any permutations or parameters to the proposed development.

Cumulative Impacts

The potential cumulative impacts with other major developments will need to be identified, as required by the Directive. The significance of such impacts should be shown to have been assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other major development should be identified through consultation with the local planning authorities and other relevant authorities on the basis of those that are:

- Projects that are under construction;
- Permitted application(s) not yet implemented;
- Submitted application(s) not yet determined;
- All refusals subject to appeal procedures not yet determined;
- Projects on the National Infrastructure's programme of projects; and
- Projects identified in the relevant development plan (and emerging development plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.

Details should be provided in the ES, including the types of development, location and key aspects that may affect the EIA and how these have been taken into account as part of the assessment will be crucial in this regard.

The Secretary of State recommends that offshore wind farms should also take account of any offshore licensed and consented activities in the area, for the purposes of assessing cumulative effects, through consultation with the relevant licensing/consenting bodies.

For the purposes of identifying any cumulative effects with other developments in the area, applicants should also consult consenting bodies in other EU states to assist in identifying those developments (see commentary on Transboundary Effects below).

Related Development

The ES should give equal prominence to any development which is related with the proposed development to ensure that all the impacts of the proposal are assessed.

The Secretary of State recommends that the applicant should distinguish between the proposed development for which development consent will be sought and any other development. This distinction should be clear in the ES.

Alternatives

The ES must set out an outline of the main alternatives studied by the applicant and provide an indication of the main reasons for the applicant's

choice, taking account of the environmental effect (Schedule 4 Part 1 paragraph 18).

Matters should be included, such as inter alia alternative design options and alternative mitigation measures. The justification for the final choice and evolution of the scheme development should be made clear. Where other sites have been considered, the reasons for the final choice should be addressed.

The Secretary of State advises that the ES should give sufficient attention to the alternative forms and locations for the off-site proposals, where appropriate, and justify the needs and choices made in terms of the form of the development proposed and the sites chosen.

Mitigation Measures

Mitigation measures may fall into certain categories namely: avoid; reduce; compensate or enhance (see Schedule 4 Part 1 paragraph 21); and should be identified as such in the specialist topics. Mitigation measures should not be developed in isolation as they may relate to more than one topic area. For each topic, the ES should set out any mitigation measures required to prevent, reduce and where possible offset any significant adverse effects, and to identify any residual effects with mitigation in place. Any proposed mitigation should be discussed and agreed with the relevant consultees.

The effectiveness of mitigation should be apparent. Only mitigation measures which are a firm commitment and can be shown to be deliverable should be taken into account as part of the assessment.

It would be helpful if the mitigation measures proposed could be cross referred to specific provisions and/or requirements proposed within the draft development consent order. This could be achieved by means of describing the mitigation measures proposed either in each of the specialist reports or collating these within a summary Section on mitigation.

The Secretary of State advises that it is considered best practice to outline in the ES, the structure of the environmental management and monitoring plan and safety procedures which will be adopted during construction and operation and may be adopted during decommissioning.

Cross References and Interactions

The Secretary of State recommends that all the specialist topics in the ES should cross reference their text to other relevant disciplines. Interactions between the specialist topics is essential to the production of a robust assessment, as the ES should not be a collection of separate specialist topics, but a comprehensive assessment of the environmental impacts of the proposal and how these impacts can be mitigated.

As set out in EIA Regulations Schedule 4 Part 1 paragraph 23, the ES should include an indication of any technical difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

Consultation

The Secretary of State recommends that any changes to the scheme design in response to consultation should be addressed in the ES.

It is recommended that the applicant provides preliminary environmental information (PEI) (this term is defined in the EIA Regulations under regulation 2 'Interpretation') to the local authorities.

Consultation with the local community should be carried out in accordance with the SoCC which will state how the applicant intends to consult on the preliminary environmental information (PEI). This PEI could include results of detailed surveys and recommended mitigation actions. Where effective consultation is carried out in accordance with Section 47 of the Planning Act, this could usefully assist the applicant in the EIA process – for example the local community may be able to identify possible mitigation measures to address the impacts identified in the PEI. Attention is drawn to the duty upon applicants under Section 50 of the Planning Act to have regard to the guidance on pre-application consultation.

Transboundary Effects

The Secretary of State recommends that consideration should be given in the ES to any likely significant effects on the environment of another Member State of the European Economic Area. In particular, the Secretary of State recommends consideration should be given to discharges to the air and water and to potential impacts on migratory species and to impacts on shipping and fishing areas.

The Applicant's attention is also drawn to the Planning Inspectorate's Advice Note 12 'Development with significant transboundary impacts consultation' which is available on the Advice Notes Page of the National Infrastructure Planning website[9].

Summary Tables

The Secretary of State recommends that in order to assist the decision making process, the applicant may wish to consider the use of tables:

Table X: to identify and collate the residual impacts after mitigation on the basis of specialist topics, inter-relationships and cumulative impacts.

[9] Available from: http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

Table XX: to demonstrate how the assessment has taken account of this Opinion and other responses to consultation.

Table XXX: to set out the mitigation measures proposed, as well as assisting the reader, the Secretary of State considers that this would also enable the applicant to cross refer mitigation to specific provisions proposed to be included within the draft Development Consent Order.

Table XXXX: to cross reference where details in the HRA (where one is provided) such as descriptions of sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

Terminology and Glossary of Technical Terms

The Secretary of State recommends that a common terminology should be adopted. This will help to ensure consistency and ease of understanding for the decision making process. For example, 'the site' should be defined and used only in terms of this definition so as to avoid confusion with, for example, the wider site area or the surrounding site. A glossary of technical terms should be included in the ES.

Presentation

The ES should have all of its paragraphs numbered, as this makes referencing easier as well as accurate. Appendices must be clearly referenced, again with all paragraphs numbered. All figures and drawings, photographs and photomontages should be clearly referenced. Figures should clearly show the proposed site application boundary.

Confidential Information

In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title, and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Planning Inspectorate would be required to disclose under the Environmental Information Regulations 2014.

Bibliography

A bibliography should be included in the ES. The author, date and publication title should be included for all references. All publications referred to within the technical reports should be included.

Non Technical Summary

The EIA Regulations require a Non Technical Summary (EIA Regulations Schedule 4 Part 1 paragraph 22). This should be a summary of the assessment in simple language. It should be supported by appropriate figures, photographs and photomontages.

APPENDIX 2 – LIST OF BODIES FORMALLY CONSULTED

Note: the Prescribed Consultees have been consulted in accordance with the Planning Inspectorate's Advice Note three - EIA Consultation and Notification (version 6, June 2015)[10].

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Welsh Ministers	Welsh Government
The Health and Safety Executive	Health and Safety Executive
The relevant fire and rescue authority	North Wales Fire and Rescue Service
The relevant police and crime commissioner	Office of the Police and Crime Commissioner North Wales
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Llanbadrig Community Council
	Cylch-y-Garn Community Council
	Mechell Community Council
	Llanfaethlu Community Council
	Amlwch Community Council
	Rhosybol Community Council
	Tref Alaw Community Council
	Llanfachraeth Community Council
The Equality and Human Rights Commission	Equality and Human Rights Commission
Royal Commission On Ancient and Historical Monuments Of Wales	Royal Commission On Ancient and Historical Monuments Of Wales
The Natural Resources Body for Wales	Natural Resources Wales
The Homes and Communities Agency	The Homes and Communities Agency
The Maritime and Coastguard Agency	Maritime & Coastguard Agency
The Marine Management Organisation	Natural Resources Wales

[10] Available from: http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Relevant Highways Authority	Isle of Anglesey County Council
The Passengers Council	Transport Focus
The Disabled Persons Transport Advisory Committee	Disabled Persons Transport Advisory Committee
Office of Rail and Road	Office of Rail and Road
Approved Operator	Network Rail Infrastructure Ltd
The Gas and Electricity Markets Authority	OFGEM
The Water Services Regulation Authority	Ofwat
The relevant waste regulation authority	Natural Resources Wales
Trinity House	Trinity House
Public Health England, an executive agency of the Department of Health	Public Health England
The relevant local resilience forum	North Wales Resilience Forum Secretariat
The Crown Estate Commissioners	The Crown Estate
The Natural Resources Body for Wales	Natural Resources Wales
The relevant local heath board	Betsi Cadwaladr University Health Board
The National Health Service Trusts	Public Health Wales
	Welsh Ambulance Services Trust
	Velindre NHS Trust
The Office for Nuclear Regulation (the ONR)	The Office for Nuclear Regulation (the ONR)

RELEVANT STATUTORY UNDERTAKERS	
SCHEDULE 1 DESCRIPTION	**ORGANISATION**
The relevant NHS Trust	Public Health Wales
	Welsh Ambulance Services Trust
	Velindre NHS Trust
The relevant local heath board	Betsi Cadwaladr University Health Board

RELEVANT STATUTORY UNDERTAKERS	
SCHEDULE 1 DESCRIPTION	**ORGANISATION**
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Dock and Harbour authority	Amlwch Harbour
	Holyhead Port
Lighthouse	Trinity House
Universal Service Provider	Royal Mail Group
The relevant Environment Agency	Natural Resources Wales
The relevant water and sewage undertaker	Dwr Cymru (Welsh Water)
The relevant public gas transporter	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Quadrant Pipelines Limited
	LNG Portable Pipeline Services Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
The relevant electricity generator with CPO Powers	Horizon Nuclear Power Wylfa Limited
	Energetics Electricity Limited
	ESP Electricity Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks

RELEVANT STATUTORY UNDERTAKERS	
SCHEDULE 1 DESCRIPTION	**ORGANISATION**
	Limited
	Peel Electricity Networks Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	SP Manweb Plc
	UK Power Networks Limited
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc

SECTION 43 CONSULTEES	
DESCRIPTION	**ORGANISATION**
Local Authorities	Isle of Anglesey County Council

NON-STATUTORY CONSULTEES
Welsh Language Commissioner
CADW
Royal National Lifeboat Institution
Ministry of Defence

APPENDIX 3 – RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

List of bodies who replied by the Statutory Deadline:

Amlwch Town Council
North Wales Fire and Rescue Service
Isle of Anglesey County Council
The Health and Safety Executive
Ministry of Defence
National Grid
Natural Resources Wales
Network Rail
North Wales Police
Public Health England
Trinity House
Welsh Water (Dŵr Cymru)

From: swyddfa@cyngortrefamlwch.co.uk [mailto:swyddfa@cyngortrefamlwch.co.uk]
Sent: 11 April 2016 13:57
To: Environmental Services
Subject: ref 160321_en010007_3756884 Wylfa Newydd

Good afternoon

Further to your recent letter regarding the above application and scoping consultation, Amlwch Town Council would like to draw your attention to their concerns regarding traffic flow along the A5025 road from Cemaes to Rhosgoch Junction near Amlwch. There are concerns not only with increased traffic flow but also the safety oft he road itself as one of the m,ain routes to and from the proposed station site.

regards

Carli Evans-Thau
Clerk, Amlwch Town Council

From: Dave.MHPD.Adams@hse.gsi.gov.uk [mailto:Dave.MHPD.Adams@hse.gsi.gov.uk] **On Behalf Of** NSIP.Applications@hse.gsi.gov.uk
Sent: 22 March 2016 08:50
To: Environmental Services; ONR.Land.Use.Planning@onr.gsi.gov.uk
Cc: Steve.Newman@onr.gsi.gov.uk
Subject: RE: EN010007 - Wylfa Newydd Nuclear Power Station - EIA Scoping Notification and Consultation

Dear PINs,

HSE does not deal with Nuclear Sites, as these are dealt with by ONR (Office for Nuclear Regulation).

Kind regards,

Dave Adams

Dave.MHPD.Adams

Land Use Planning Policy, Major Hazards Policy Division, Hazardous Installations Directorate, Health and Safety Executive.

Desk 76, 2.2, Redgrave Court, Merton Road, Bootle, Merseyside L20 7HS

0151 951 3408 dave.mhpd.adams@hse.gsi.gov.uk

[2]

HSE is engaging with stakeholders to shape a new strategy for occupational safety and health in Great Britain Find out more[3] and join the conversation #HelpGBWorkWell

www.hse.gov.uk | http://hse.gov.uk/landuseplanning

CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL

Dr. Gwynne Jones
Prif Weithredwr
Chief Executive

CYNGOR SIR YNYS MÔN
ISLE OF ANGLESEY COUNTY COUNCIL
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Gofynnwch am - Please ask for:
E Gwyndaf Jones

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Ein Cyf - Our Ref. 38C310B/SCO/CONS
Eich Cyf - Your Ref.

18th April 2016

Dear Secretary of State,

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (As amended) – Regulation 8

Application by Horizon Nuclear Power for an order granting Development Consent for the Wylfa Newydd Generating Station.

Scoping Consultation with Prescribed Bodies.

I refer to your letter dated 21st March 2016 regarding the above development proposal and the applicant's request for a scoping opinion from the Secretary of State.

The County Council welcomes the opportunity, as a relevant authority, to respond to the information contained within Horizon Nuclear Power's (the applicant's) scoping report. The County Council recognises that a great deal of work has been done by the applicant to refine the scope of the assessments such that the focus is upon those matters which have the potential to create significant environmental effects. The advice contained within this letter and the accompanying response document is information which the council considers should be taken into consideration for inclusion within the Environmental Impact Assessment and recorded in the applicant's Environmental Statement.

The County Council's overall conclusions following a review of the scoping report are that it is a comprehensive document which covers the relevant environmental topics. There are however certain cross-cutting themes which the County Council believes could be given a greater degree of coverage and further advice is provided below. Similarly the approach to the assessment of in-combination and cumulative effects is a critical aspect for the County Council particularly with regard to the socio-economic effects (including community, health, social and wellbeing aspects) that may be felt by communities local to the site as well as to communities across the island. Indirect effects on the Welsh language which is a defining feature of many of our communities should also not be ignored and whilst the applicant's intention to

undertake a Welsh language impact assessment is welcome greater consideration should be given to the issue of the Welsh language within the EIA.

The County Council is committed to ensuring that Anglesey is a place where the Welsh language and culture is flourishing. Whilst the economic opportunities presented by the project are likely to be extremely beneficial to Anglesey and to the wider region there remains the potential for the project to affect the cultural and linguistic balance of the Island's communities. The potential effects may be direct, a dilution of welsh speakers arising from an influx of workers, but may also indirect and a situation where over-stretched community services, insufficient investment in infrastructure and rising rents and house prices prompting people to move out of their communities is one the County Council and applicant will wish to avoid. Similarly the character of many of our communities is influenced by intangible aspects such as local history, landscape, and the flora and fauna which surrounds them and direct effects upon these elements may also affect community identity and lead to a dilution of community wellbeing.

As a consequence of the above the County Council considers that individual EIA chapters should include for the consideration of direct or indirect impacts upon local communities and the Welsh language. This consideration should run as a 'golden thread' through the ES document. Whilst for certain environmental topics it may be sufficient to state that the potential for such effects can be scoped from the assessment, for others, consideration should be given to the erosion of community wellbeing, language and identity. Individual assessments should then be combined within the cumulative assessment chapter and the conclusions can also be used to inform the more focused Welsh language Impact Assessment.

The County Council's concern for inter and intra-development effects extends beyond the social and economic. NPS EN-6 Volume 2 records the Government's own Appraisal of Sustainability as concluding that there is the potential for adverse effects on sites and species considered to be of European nature conservation importance as well as upon those designated as being of national importance. Whilst the County Council recognises the issue of overriding public interest, these sites, and their features contribute to the character of the island's northern coastline, and are valued by its communities and visitors alike. All measures to avoid and mitigate impacts should be considered and recorded within the ES as well as the HRA with measures for the enhancement of habitat elsewhere along the coast recorded.

The County Council recognises that radiological effects will be effectively controlled by regulators and legislation outside of the environmental impact regime however the County Council remains concerned to ensure that the longer term potential impacts of radiological storage are effectively captured within the ES. In particular consideration should be given to the possibility of waste remaining on site following the station's operational phase in the event that a GDF is not available. Radiological storage can also give rise to negative perceptions and the resulting effects upon human health should be considered within relevant EIA topics rather than solely within the Health Impact Assessment.

Many receptors are likely to be affected by more than one activity and/or development associated with the project and the applicant must not lose sight of the importance of managing certain impacts across technical disciplines. For example NPS EN-6 Volume II (paragraph C9.72) recognises the potential for effects on the AONB and advocates that to understand the effects and the effectiveness of any mitigation proposed that an integrated landscape, heritage and architecture plan be produced. Similarly the County Council advocates the establishment of a comprehensive system of environmental management consistent with best practice and guidance for the duration of the project (construction and operation) with the potential to be monitored in real time by both the applicant and the County Council. A comprehensive list of all mitigation proposed, together with the means by which it will be secured and implemented will also be beneficial.

Detailed comments on the proposed scope of the assessment are provided within the County Council's response document which is attached to this letter. The County Council would expect that the Secretary of State will take into account the views of the County Council, along with other prescribed bodies and wishes to re-emphasise that it remains committed to working with Horizon to refine the scope of the assessments throughout the process of environmental impact assessment.

I thank you for providing the County Council with the opportunity to comment on this nationally significant project.

Yours sincerely

[redacted]

Gwynne Jones
Prif Weithredwr / Chief Executive

CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL

IACC Response to Scoping Request: Horizon Nuclear Power Wylfa Newydd

ioacc @angleseycouncil

April 2016

www.ynysmon.gov.uk
www.anglesey.gov.uk

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COUNTY COUNCIL

Document Version

No.	Details	Date
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1. Introduction

1.1.1.1 On the 19th March 2016 the Secretary of State received a Scoping Report submitted by Horizon Nuclear Power Ltd (Horizon, or the applicant) under Regulation 8 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) in order to request a scoping opinion for the proposed development ('the Project').

1.1.1.2 Under Regulation 8(6) of the EIA Regulations the Secretary of State has a duty to consult widely before adopting a scoping opinion. This duty includes for consultation with the relevant planning authority, the Isle of Anglesey County Council (the council).

1.1.1.3 This document has been prepared in response to this consultation request and should be read in conjunction with the applicant's Scoping Report. It represents the council's considered comments on the scope of the environmental impact assessment proposed by Horizon. For ease of reference this response broadly follows the structure, terminology and definitions used in the Scoping Report.

1.1.1.4 The council will not be precluded from requesting additional information in its consideration of local impacts if the nature of the development, baseline conditions, legislation or guidance as set out within the Scoping Report changes prior to the submission of the application for a development consent order (DCO).

1.2 Consultation

1.2.1.1 The council has undertaken internal consultation with relevant officers when compiling this response. External consultation has been restricted to the Gwynedd Archaeological Trust, as archaeological advisor to the Council.

1.2.1.2 The council appreciates that the Secretary of State has consulted with a number of consultees and the council recommends that the ES submitted by the Applicant should demonstrate consideration of the points raised by itself and other consultation bodies. It is therefore recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are addressed in the ES.

1.3 Local Communities and the Welsh Language

1.3.1.1 The council is committed to ensuring that Anglesey is a place where the Welsh language and culture flourishes. Although the project has the potential to provide significant opportunities for the Island's communities it also poses a series of threats if not properly planned and managed. A number of these threats are obvious and will be identified within the socio-economic assessment, others may be more subtle and less easy to define. For example, the character of many of the Island's communities is influenced by intangible aspects such as local history, heritage and landscape and direct effects upon these elements may also lead to an erosion of community identity over time.

1.3.1.2 In view of the above, the council is of the opinion that in addition to the proposed and separate Welsh language Impact Assessment each environmental topic of the EIA should include for the consideration of effects upon local communities and the Welsh language. The council recognises that for certain topics the relevant ES chapter can record that effects have been scoped out. However, for topics such as radiological issues, soils and geology, landscape and visual, archaeological and cultural heritage, public access and recreation for example, consideration should be given to the potential for secondary effects upon local communities and the Welsh language. A combined, inter and intra-development assessment which brings together any individual effects upon recognised receptors should be provided within the cumulative assessment chapter.

1.3.1.3 In relation to the Welsh language generally it is vital that the assessment of the impacts is accompanied by the development of appropriate mitigation. Given the importance of the Welsh language in this part of Wales and the threats already referred to arising from the sheer scale of the project and its long (and intense) construction and operational time frame, it is reasonable to expect the applicant to set the highest standards in relation to developing and delivering mitigation measures.

1.4 Community, Health and Wellbeing

1.3.1.4 At a strategic level, the EIA and any mitigating actions cannot be developed in isolation without full consideration of the Health Impact and Welsh Language Impact Assessments as well as the suite of key strategies proposed by the applicant (eg Construction Worker Accommodation, Jobs & Skills and Traffic & Transport

Strategies). These strategies currently lack detail. Clarity on these matters is a critical part of the entire Project and is crucial in order to enable:

- A well-informed assessment of community, health, social care and wellbeing impacts
- Development of ambitious legacy investments for communities on Anglesey for the mitigation of adverse impacts (Anglesey wide and locality specific).

1.3.1.5 There is significant cross-referencing between the EIA and the Health Impact Assessment Progress Report (HIAPR). The current HIAPR does not read as a balanced approach to an assessment across the spectrum of community, health, social care and wellbeing considerations. It is vital that the assessment of impacts is accompanied by the development of appropriate mitigation. Given the potential impacts of this significant proposed development on vulnerable people (both during construction and operation), it is reasonable to expect the applicant to set high standards in relation to the development and delivery of sustainable mitigation measures.

1.3.1.6 The Council is also committed to ensuring that the Isle of Anglesey is a place of cohesive communities which are resilient, fair and equal. This means listening to the views of our communities to promote positive inclusion and continually identify barriers and how they can be overcome. Significant developments of this ilk test the strength of our communities and how people live together. Messages of division can create deep rooted tensions in communities and provide challenges for communities and partners. Some of these issues are transparent and will be highlighted in the socio-economic assessment but other aspects will be less tangible requiring some specific work to help promote shared values and put in place preventative measures.

2 The Proposed Development

2.1 The Wylfa Newydd Project

2.1.1.1 The applicant is proposing to construct and operate a proposed new nuclear power station ("Power Station") incorporating two advanced boiling water reactors, associated plant, and ancillary structures near Cemaes, Anglesey. In addition the applicant proposes off-site power station facilities in the form of an Alternative Emergency Control Centre (AECC) and Environmental Survey laboratory (ESL) at Cefn Coch and a Mobile Emergency Equipment Garage (MEEG) on land adjacent to the A5025 in Llanfaethlu.

2.1.1.2 To facilitate its construction a number of separate but related developments are proposed. Presently these developments would be subject to consenting under the Town and Country Planning Act 1990 and as such will be determined by the council. These developments are not therefore considered within the applicant's scoping report other than that they form part of the wider project for consideration within the cumulative impact assessment (intra-project assessment).

2.1.1.3 It is important that each element of the overall scheme is identified within the ES and correctly allocated as between the DCO application and planning applications under the Town and Country Planning Act 1990 (and the marine licence). As the applicant is aware, there is no relevant category of "associated development" available to a nuclear generating station scheme in Wales under the Planning Act 2008. The council are in discussions with the applicant regarding reaching a joint position on this matter, which has not yet been concluded. Pending the outcome of that discussion, it should be noted that the council does not necessarily accept the position taken by the applicant in the scoping report, particularly as regards the off-site facilities described in Section 3.8.

3 Regulatory and Policy Background

3.1 National Policy Statements

3.1.1.1 The council would expect to see reference to 'Flags for Local Consideration' as referenced within NPS EN-6. In particular relevant topic chapters of the ES should provide sufficient information to enable consideration of the combined effects of the project with proposals to the transmission of electricity. Reference should be given to the advice contained within NPS EN-1 Section 4.9 which states that should the applicant seek consent for the generating station and not the means of transmission then sufficient information is required to enable the council to understand the indirect, secondary and cumulative effects which will encompass the grid connections.

3.1.1.2 In addition and where appropriate the applicant should provide information sufficient to enable the council to consider the potential for impacts upon significant infrastructure and resources (NPS EN-6 section 3.15).

3.2 UK, Wales and Local Policies

3.2.1.1 The Planning Act 2008 requires that decisions on applications for energy infrastructure must be made in accordance with National Policy Statements unless certain conditions may apply, as specified in section 104 of the Planning Act 2008. Other matters that the decision maker will in practice consider both important and relevant to its decision-making may include Development Plan Documents or other relevant policy documents. Consequently welsh policy and council policy (including the Wylfa Newydd SPG) will be relevant to the consideration of the power station as well as being the primary documents for consideration for associated development under the Town and Country Planning Act 1990. This important point regarding the DCO decision under section 104 of the Planning Act 2008 is not acknowledged in the scoping report (Section 2.1) where it reads as if welsh policy and council policy are only relevant to the decisions on planning applications.

3.2.1.2 In addition to the technical advice notes listed (TANs) at 2.1.2, consideration should be given to TAN21: Waste and the approaches to waste minimisation and the waste hierarchy contained within it. Whilst TAN20: Planning and the Welsh Language (2013) is almost exclusively directed to the local development plan process the applicant should be aware of the recent consultation on proposed changes to the TAN, and the guidance contained within it which may be of assistance when

compiling its own Welsh Language Assessment. Reference to TAN12: Design should be made in the context of buildings connected with the generating station and the generating station itself.

3.2.1.3 Reference should also be made to the Minerals Technical Advice Note (Wales) 1: Aggregates and to Planning Policy Wales Edition 8, Chapter 14 – Minerals.

3.2.1.4 With regard to the current local plan, the scoping report and subsequent ES should recognise that whilst the Local Plan and the Structure Plan may be dated, they are still the 'development plan' and therefore the starting point for decision making at a LPA level and by PINS (in the context of TCPA applications).

3.2.1.5 In addition to the development plan documents referred to at 2.1.3, reference, in the case of the emerging JLDP, should be made to the Focussed Changes to the Deposit Plan consulted upon in February 2016. The JLDP was accepted for examination purposes on 18th March 2016 and adoption is anticipated in February 2017. The document is likely to carry weight as material planning consideration ahead of its adoption.

3.2.1.6 The Wylfa Newydd SPG provides specific policy guidance for the consideration of the DCO application and associated developments and project compliance with the SPG will inform the council's Local Impact Report.

3.2.1.7 Reference should also be made to the council's Transformation Plan – The Roadmap to the new Anglesey. This document sets out the council's aspirations and the contribution which Wylfa Newydd and other major projects can contribute towards its realisation.

3.3 Other Legislative Requirements

3.3.1.1 The council would wish to see a comprehensive list of other consents and licences provided with the DCO application. This should list those that may be incorporated into the draft DCO and where appropriate, provide evidence that the appropriate regulatory body has been consulted and is in agreement. It should also identify those that will be sought outside of the DCO and the timing of such applications. With regard to the council's regulatory responsibilities such consents may include works proposed under the New Roads and Streetworks Act 1991.

3.3.1.2 The Wellbeing of Future Generations (Wales) Act 2015 which came into force very recently requires listed public bodies (including the Local Authority and Health

Board) to carry out sustainable development. Sustainable development means the process of improving the economic, social, environmental and cultural wellbeing of Wales. The actions that a public body takes in carrying out sustainable development must include setting and publishing wellbeing objectives which are designed to maximise the contribution of each public body towards achieving the 7 wellbeing goals set out in the legislation. Each public body listed in the legislation is required to take all reasonable steps to meet their respective wellbeing objectives and in turn work towards achieving the national wellbeing goals. This significant piece of legislation is overarching and far reaching and must be fully acknowledged and taken into account by the applicant (achieving against the wellbeing goals in a manner which ensures that the needs of the present are met without compromising the ability of future generations to meet their own needs).

4 Comments on Project Description and Outline of Construction Activities

4.1 Description of the Proposed Development

4.1.1.1 The applicant should ensure that the description of the proposed development that is being applied for is as accurate and fixed as possible as this will form the basis of the Environmental Impact Assessment (EIA). The applicant should be aware that the description of the development in the ES must be sufficiently certain to meet the requirements of Schedule 4 of the EIA Regulations when the planning application is submitted. The council accepts that some flexibility will be required and this should be stated explicitly within the project description chapter (for example the reactor building and main stack is presently referenced as being of a height of between 70m to 80m). The EIA should assess a worst case as it may pertain to individual environmental topics and cumulative assessment.

4.1.1.2 The applicant refers to PINs Advice Note 9: Rochdale Envelope in section 7.2.3. The discussion on the Rochdale envelope is very brief in the scoping report. The council will be the body dealing with the discharge of details under requirements in the DCO and it is important that the applicant takes account of the experience of the operation of other DCOs in this respect. In particular, the council is keen to achieve a proportionate balance which allows a 'buildable' consent, with an appropriate mechanism for the approval of details. This needs to be compliant with EIA requirements and allow affected communities and other stakeholders to understand properly during consultation and at the point of submission/examination the range of outcomes which the DCO, if granted, is intended to allow. The council is keen to work with the applicant on this complex and important set of issues which has implications across the ES and other application documents.

4.1.1.3 The ES should include a clear description of all aspects of the proposed development, at the construction and operational stages and include:

- Land use requirements;
- Any additional site preparation or enabling works following the SPC works, for example in and around the site of the proposed MOLF;
- Construction processes and methods;
- Transport routes;

- Emissions- water, air and soil pollution, noise, vibration, light, heat, radiation.
- Maintenance activities in the operational phase, and
- Restoration proposals for example, landscaping around the site once construction activities have ceased.

4.2 Project components

4.2.1.1 Reference is made to the Training and Simulator building potentially operating 24 hours a day. Figure 3.1 identifies the preferred location of this building immediately north-west of Tregele. Consideration will need to be given within the appropriate topic chapters to the potential for 24 hour operation to affect residents and other receptors.

4.3 Lighting

4.3.1.1 Section 3.2.3.7 states that the power station lighting is yet to be fully designed. Sufficient information will be required to inform the assessment for the potential of significant effects arising from lighting upon landscape and visual receptors including residential amenity and ecological receptors. The applicant should refer to the council's response at PAC1 and also to NPS EN6 HRA where significant effects resulting from lighting upon European sites could not be ruled out. As per previous council comments made at PAC1 the topic of lighting may be best presented as an individual ES topic or sub-topic.

4.4 Landscaping

4.4.1.1 The ES should include outline landscape designs for the site and its immediate surroundings sufficient to inform the relevant topic chapters.

4.5 Radioactive waste storage buildings

4.5.1.1 NPS EN-6 paragraph 2.11.3 states that until geological disposal of radioactive waste is technically feasible and a suitable site can be found, safe, secure and environmentally acceptable interim storage arrangements will be available. The Scoping Report section 3.2.4.4 describes proposals for a facility to store ILW and HLW material. It identifies two alternative locations. When considering the appropriateness of either location, and when assessing the environmental effects arising from the preferred location, the applicant should ensure that consideration is given to the criteria set out within the Wylfa Newydd SPG GP17. Consideration of

decommissioning as referenced within GP17 will also be important as will the possible effects of the alternative scenario which is the retention of the storage building post generating plant decommissioning should a national GDF facility not be available.

4.5.1.2 In addition to radioactive waste, the ES should set out the means by which the additional non-radioactive waste (both construction waste and municipal 'black bag' waste) will be dealt. Sufficient information should be provided within associated documents such as a waste management strategy to give confidence to the council that existing municipal waste collection and storage arrangements will not be unduly impacted upon by the project (see Wylfa Newydd SPG GP16).

4.6 Site Access

4.6.1.1 Reference is made at section 3.4 to the current, preferred means of access into the site, from the A5025, south of Tregele. The ES should set out within its consideration of alternatives, greater information about the selection of this location and design, compared with others considered. Means of access to site, if required, whilst this access is under construction should also be set out and assessed.

4.6.1.2 Comments made later in this consultation response set out council requests for information on the management of traffic over the Britannia Bridge, the need to have a comprehensive traffic management plan to include for the minimisation of vehicles and to enforce the routing of construction traffic, including Abnormal Indivisible Loads (AILs) and the importance of phasing the construction of the generating station following completion of highway improvements to the A5025.

4.7 Connection to the National Grid

4.7.1.1 Council comments on the need for sufficient information to understand the cumulative effects of the grid connection with the project have been set out above.

4.8 Utilities

4.8.1.1 Reference has been already made to the need to consider 'Flags for Local Consideration'. Such flags include for consideration of impacts upon significant infrastructure including utilities. The applicant should ensure that sufficient information is provided, potentially within the socio-economic assessment or within a separate utilities topic assessment to demonstrate that there will be no significant

effects upon resources and utilities and that as a consequence, local businesses, residents and ecological sites for example will not be affected detrimentally.

4.9 Phasing – Outline of Construction Activities

4.9.1.1 The EIA should consider environmental effects potentially arising during each of the four phases of the project lifecycle. Consideration should also extend to include for the accumulation of effects which may extend across some or all of the phases, particularly ecological and residential amenity effects.

4.9.1.2 Section 3.7.4 sets out the anticipated decommissioning works which include for the transfer of ILW and HLW to the GDF. In the current absence of a GDF, consideration should also be given to the alternative of retaining such waste on site once the remainder of the generating station has been decommissioned even if the consideration of any resulting effects is only covered to a certain extent given the current requirement for decommissioning to require EIA in its own right.

4.10 Off-site facilities

4.10.1.1 The alternatives ES chapter should identify other alternatives considered for the siting of the MEEG and AECC/ESL and state whether the applicant considered siting separately the AECC and the ESL (see below).

5 Alternatives

5.1.1.1 The council welcomes the commitment to provide information on the alternatives studied and the reasons for the choices made. This should include for the accommodation of ILW and HLW waste as per the Council's response to PAC1. With regard to the MEEG and AECC/ESL, the chapter should provide the result of the site selection process which is presently referenced within the scoping report. In particular it should set out the range of sites identified and the reasons for the selection of the preferred sites. This information might be most appropriately provided as an appendix to the ES.

6 Consultation and scoping

6.1 Consultation

6.1.1.1 The council considers that the PAC2 consultation should explain how comments received at PAC1 have been addressed, and where they have not been accepted, the reasons why not. This information should also be included in the Consultation Report as required under Section 37(3)(c) of the Act.

6.2 Scoping

6.2.1.1 The approach to assessing effects on different aspects of the environment is summarised within Table 6.1. This references artificial light as being considered within the Landscape and Visual Chapter. Whilst this appears compliant with NPS EN-1 where reference to artificial light is one of a number of emissions which may give rise to statutory nuisance, consideration of lighting effects should also, in the opinion of the council, extend to the potential to affect ecological receptors as well as residential amenity. If such a potential exists, mitigation should be proposed and secured within the DCO.

6.2.1.2 Scoping should include for the consideration of climate change within each topic chapter. Climate change is likely to change baseline conditions during the lifetime of the project and an assessment of how the baseline might evolve, relative to each environmental topic chapter should be included even where the conclusion is reached that it can be scoped from further consideration. The council's PAC1 comment did make reference to the need for consideration of climate change.

6.2.1.3 NPS EN-1 paragraph 4.8.12 notes that in addition to the consideration of the need for climate change adaptation measures it should be recognised that certain measures may be required only should the need arise, rather than at the outset of the development. Should Horizon therefore identify the potential for adaptation measures at some point during the lifetime of the development (for example reference is made within Chapters 14 and 16) the type of measures proposed and the potential environmental effects which they may create (positive as well as negative) should be set out within the relevant topic chapters.

6.2.1.4 Reference to waste is noted as being dealt with within individual topic chapters. When considering the issue of waste, how it is created and dealt with consideration

should be given to the Waste Hierarchy to ensure that waste is minimised wherever possible.

6.3 Topic scoped out

6.3.1.1 The council has reviewed the list of topics which the applicant proposes to scope from the ES assessment and is in agreement with its conclusions.

7 Approach to Environmental Impacts Assessment

7.1 Methodology

7.1.1.1 The council has produced its own guidance to inform all promoters of EIA development on Anglesey on the methodologies to be adopted. The applicant has referred to this document at various places within the scoping report. A copy of the document (Approach and Methodology for Environmental and Cumulative Impact Assessment, IACC, May 2014) is attached to this scoping response for the benefit of the Secretary of State.

7.2 Baseline studies

7.2.1.1 The Scoping Report recognises that the baseline will evolve should the project not go ahead. Similarly, and in reference to comments made above, the sensitivity of the surrounding environment may change with the project in place even when the cause of the change is not the project itself. The example already quoted by the council is climate change. The evolution of the baseline should include consideration of the extent to which climate change, based upon the predictions and advice contained within NPS EN1, may affect current baseline conditions and as a consequence the changes in the significance of effect that may or may not result.

7.3 Impact prediction and evaluation

7.3.1.1 The applicant refers to the construction phase including site preparation and clearance (SPC). The council understands that these activities are to be the subject of a separate TCPA application with a separate EIA. Clarification is needed regarding this scoping process and whether the baseline for the generating station development will consider the conditions pre or post SPC. If the former then it is anticipated that the construction phase effects will include a summary of the effects identified and reported within the SPC EIA with the SPC effects embedded into the project assessment and excluded from the consideration of cumulative, intra-project effects so as to avoid double counting. If the latter then the baseline should be projected to a point following the completion of the SPC works with these works considered under the cumulative effects assessment.

7.3.1.2 Impact prediction is informed by a consideration of receptor sensitivity. In some of the topic chapters the scoping report does not identify individual receptors nor provide the categories of sensitivity that will be applied to them. The council would

recommend that it is consulted on the value to be assigned to receptors prior to the preparation of the ES.

7.4 The Rochdale envelope

7.4.1.1 The approach to the consideration of aspects of the project which are yet to be fixed is acknowledged. As already noted, it will be important for the applicant to discuss how these parameters and ultimately the corresponding limits of deviation and other controls can be secured through the wording of requirements within the draft DCO.

7.5 EIA significance criteria

7.5.1.1 Reference is made within the scoping report to major, moderate, minor and not significant effects suggesting that all effects above 'not significant' are to some degree, significant. The council is also aware that different environmental topics follow different methodological approaches particularly with regard to what constitutes a significant effect with for example certain topics employing effect combinations such as 'major-moderate significant'. Clarification as to what level of effect may constitute a significant effect in EIA terms should be provided.

7.6 Mitigation proposals

7.6.1.1 Whilst the ability to mitigate otherwise significant environmental effects is key to EIA, opportunities for enhancement where significant effects have not been identified should also be considered, and reported within the ES. Public bodies, for example have a duty under the NERC Act 2006 to conserve biodiversity in the exercise of their functions. Conserve is defined as restoring or enhancing a population or habitat. The applicant should identify opportunities for enhancement where appropriate.

7.6.1.2 All individual topic chapters reference mitigation. The ES chapters should record the mitigation proposed, and in line with the implementation of the forthcoming EIA Directive 2014/52/EU the means by which such mitigation shall be implemented. A separate chapter or table at the end of the document bringing together all mitigation and the means for securing it would represent good practice and is something which the council understands has been requested by the Secretary of State from applicants of other nationally significant infrastructure projects.

7.7 EIA Modular approach

7.7.1.1 The scoping report states that a "Modular Approach" is to be adopted in the Environmental Impact Assessment as project elements are likely to come forward for

consent at different stages in the project. In particular it notes that certain TCPA applications may be consented in advance of the DCO submission.

7.7.1.2 The modular approach to CIA is not referenced within Horizon's recently submitted SPC Scoping request to the Council however are now subsequently able to confirm that the modular approach will be followed. Whilst the council understands the rationale behind the modular approach it is concerned to ensure that prior to determining any application that all potential cumulative effects are identified in relation to the development in question and other development proposals, both those which form part of the wider project as well as other, non-project related proposals. The danger of the modular approach is that an early decision on, for example the SPC, could be made without full consideration of the wider cumulative effects if such effects are only proposed to be identified within the ES for a later application (for example the DCO). The applicant must therefore ensure that sufficient information is provided to enable an assessment of potential cumulative effects to be undertaken based upon information available to it at the time that each individual application is submitted. If elements of future scheme remain to be fixed, then these uncertainties should be recognised.

7.7.1.3 The cumulative effects of other major developments not associated with the Wylfa Newydd project will also need to be assessed. It is recommended that the list of other projects to be included in the cumulative assessment (reasonably foreseeable future projects [RFFP]) and a cut-off date is agreed in writing with the council and where appropriate with the consultees in relation to individual topic areas. Consideration should be given to the council document 'Approach and Methodology for Environmental and Cumulative Impact Assessment 2014' which suggests a cut-off date of 4 months prior to the submission of an application.

7.7.1.4 RFFPs may also include development plan allocations where there is the potential for them to be implemented in parallel with the Project. Such allocations are designated as Tier 3 projects within the Planning Inspectorate's Advice Note 17.

7.8 Other Impact Assessments

7.8.1.1 The scoping report identifies the preparation of health impacts, welsh language and habitat regulation assessments which are welcomed by the council. Information reported in detail within these assessments should be used to inform the relevant topic chapters of the ES. In particular effects upon local communities assessed within the socio-economic chapter should include for an informed consideration of community cohesion (potentially influenced by effects upon the welsh language and which supports an Island of resilient, fair and equal cohesive communities), whilst effects upon European sites which are considered within the HRA should also be

identified within the relevant chapters of the ES. Particularly in the case of European sites, a consideration of effects is a requirement of separate legislation (the Habitats Directive and the EIA Regulations) and coverage within one should not remove the need for consideration within the other.

7.8.1.2 The applicant's approach to HRA which reflects the approach to CIA appears suitable for the consideration of the DCO in that it is that application where each specific project element is brought together in a combined DCO HRA. However, for the Council as decision-maker on TCPA applications it must be satisfied with regard to the HRA effects, including cumulative, are covered at the time it proposes to consent each individual application and cannot wait until the DCO HRA is submitted to understand the cumulative effects.

8 Topic Areas

8.1 Air Quality

8.1.1 Potential Effects and Mitigation

8.1.1.1 Reference is made to the preparation of a Dust Management Plan. The Council would expect to see an outline plan submitted with the application and secured by a requirement within the DCO. The ES chapter considering mitigation may also wish to make reference to the applicant's travel plan which proposes a range of sustainable transport options for staff and visitors and which may mitigate the potential for effects upon air quality that may otherwise arise from road transport.

8.1.2 Study Area

8.1.2.1 The council welcomes the intention of the applicant to agree the most appropriate criteria to be adopted for the assessment of potentially significant effects arising from road transport.

8.1.3 Methodologies

8.1.3.1 The methodologies to be applied by the applicant in the consideration of effects upon air quality appear to follow common modelling approaches and are considered to be acceptable. Table 8.1 should however list the methodology to be used in the assessment of emissions from marine vessels, a potential effects from which is noted in section 8.3.

8.2 Noise & Vibration

8.2.1.1 The council has reviewed the information contained within the noise and vibration chapter, together with the accompanying noise and vibration modelling and assessment methodology and can confirm that it is content with the approaches as described.

8.2.1.2 Noise and vibration is one of a number of environmental issues that has the potential to create pollution and hence significant environmental effects. Other potential issues for the council include for example dust and airborne particulate levels from plant, machinery and vehicular movements on and off the island, contamination of land, light spillage, rerouting and introduction of new potable water and private water supplies, sewage waste and associated sewerage and septic tanks systems. These examples have the potential to occur as a result of the generating station and off-site facilities, the SPC and the associated developments. The council would

therefore encourage the preparation and implementation of an effective and robust environmental management plan that would be both iterative and consistent with current best practice and legislative controls for the duration of this project. Any opportunities to extend the plan into a web-based environmental management system (EMS) approach would be viewed as being compliant with best practicable means given the scale of this project. Implementing a real-time web based EMS for example could allow noise and vibration together with other possible polluting activities to be monitored and controlled below the threshold of Statutory Nuisance; provided access to the system is available to both the applicant and council.

8.3 Landscape and Visual

8.3.1 Existing Environment

8.3.1.1 The list of sources references should be supplemented through the use of The Anglesey, Gwynedd and Snowdonia National Park Landscape Sensitivity and Capacity Assessment produced by Gillespies on behalf of the three neighbouring authorities. Use should be made of all five aspects of LANDMAP including the Historic landscape layer which should be used to identify the potential for significant effects upon the historic landscape as defined by LANDAP and the historic landscape description contained within the LCA. NPS EN-6 Volume II, with reference to Wylfa recognises LANDMAP to be a valuable resource (paragraph C9.73).

8.3.2 Key receptors

8.3.2.1 Reference is made to the consideration of potential effects upon the setting of the Parys Mountain Landscape of Historic Interest, Cestyll Garden and associated kitchen garden, Listed Buildings and Scheduled Ancient Monuments being considered in the Archaeology and Cultural Heritage chapter of the Environmental Statement, with reference to the visual impact assessment where appropriate. This is considered acceptable. Where there is public access to these features then the potential for visual effect upon visitors for example should be set out within the visual assessment. Equally should the features be noted as contributing to the landscape character of an area, then potential effects upon them should also feature within the landscape assessment.

8.3.2.2 The council is concerned about the potential for effects upon the AONB, both direct landscape effects but also secondary or indirect effects arising from changes to the historic environment present within it. This concern appears to be recognised within NPS EN-6 Volume II (paragraph C9.72) where Government notes the potential for effects on the AONB and advocates that to understand the effects and the

effectiveness of any mitigation proposed that an integrated landscape, heritage and architecture plan be produced. The council would wish to see such a document produced as part of the application.

8.3.3 Study Area

8.3.3.1 The Council concurs with the 1km study area from the edge of the Wylfa Newydd Development Area to be adopted for the assessment of effects upon views from residential properties although cautions that this should not be an absolute cut-off and that flexibility should be provided to consider properties outside of 1km where particular circumstances may indicate it appropriate to do so.

8.3.4 Assessment Methodology and Criteria

8.3.4.1 The locations to be used for the photomontages have been discussed previously with the council although at that stage the development and mitigation proposals had not been confirmed. The council is not aware of any discussions held to discuss the locations to be used for the assessment of night-time effects and the use of night-time photography. The council should be consulted on and agree with the applicant a definitive list of viewpoints.

8.4 Terrestrial and Freshwater Ecology

8.4.1.1 The ES should give consideration to the potential effects of the development on nearby SPA, SAC, Sites of Special Scientific Interest (SSSIs), Local Wildlife Sites, Biological Notification Sites, NERC Act 2006, species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2010 and other features of nature conservation interest during both the construction and operational phases.

It's the Local Planning Authorities understanding that Wylfa Head is designated as a Local Nature Reserve (LNR). There are also policies in relation to Local nature reserves in the development plan and other material planning policies. The issue of whether there is an LNR at Wylfa Head has arisen in a number of pre application meetings and Horizon has taken upon themselves to categorically confirm the position. Until the matter is satisfactorily resolved the local planning authority is not willing to scope out the matter from ES.

8.4.1.2 The Council would expect the full suite of appropriate species surveys to be undertaken and reported within the ES. Details concerning the various surveys may be better provided within appendices to the main document. Species surveys should

include for great crested newt and reptiles and mitigation in the form of translocation should be considered in discussion with the council and NRW.

8.4.1.3 A key concern of the council is the habitat regulations assessment of the potential for effects upon the Cemlyn SAC and SPA. Whilst this issue should be considered and reported within the HRA, effects upon European sites should also be assessed in line with the EIA regulations within the ES. The particular nature of the concern is the potential for in-combination effects upon the qualifying features of the sites and the length of time over which disturbance may occur (during construction and possibly operation). Further advice is contained within the council's comments on the Marine Environment.

8.4.1.4 At a local level, effects upon wildlife of local importance should be considered, both declared local nature reserves (Wylfa Head, see above) and species and habitats listed within the LBAP. The decision-maker's responsibility under the NERC Act 2006 has been mentioned previously within this scoping response.

8.4.1.5 The proposed SAC (marine mammals – harbour porpoise) and proposed SPA (Tern foraging) require consideration as if they were extant.

8.4.2 Protected Species

8.4.2.1 The ES should explain how the proposal is compliant with European Environmental legislation. This document should include reference to the following:

- Habitats Directive: in particular Article 2(2) measures to maintain or restore European habitat and species to Favourable Conservation Status, Article 6 (If applicable), Article 10: provision and a management of stepping stone and linear habitats; Article 12: Species Protection, Article 15: Prevention of incidental killing (during construction), post construction, Article 16: The applicable derogation and the two tests (FCS and no satisfactory alternative);
- The Conservation of Habitats and Species Regulations 2010 Regulation 9a (3) and 39, and
- The Birds Directive (2009).

8.4.2.2 The ES should also include reference to the creation and management of bird habitats (see 2012 Regulations).

8.4.2.3 Where protected species or their habitats are found, details should be provided to identify the species concerned, the population level at the site affected by the proposal, the direct and indirect effects of the development upon that species, full details of any mitigation, compensation or enhancement measures that may be required, and an assessment regarding whether the impact is deemed acceptable.

The ES should contain methodologies to be followed in the implementation of the development appropriate mitigation and/or compensation schemes, along with Reasonable Avoidance Measures, to ensure the favourable conservation status of the species is maintained. Detailed comments of relevance to these aspects are provided by the aforementioned ecological consultees.

8.4.2.4 The council recognises the applicant's intention to include great crested newt within the scope of the ES and to undertake surveys for red squirrel in 2016. Once surveys are complete, the council suggests that the information is shared by the applicant so that a conclusion can be agreed between parties and NRW as to the need to include both species within the assessment.

8.4.2.5 Table 11.2 states that barn owl, merlin, chough and peregrine falcon have been recorded breeding, or are likely to be breeding, within the study area. The ES should propose and deliver appropriate mitigation and/or compensation schemes, along with Reasonable Avoidance Measures, to ensure the favourable conservation status of Schedule 1 birds is maintained. The ES should include details of measures to avoid disturbance to nesting Schedule 1 birds, which would be considered an offence the Wildlife and Countryside Act 1981 (as amended).

8.4.2.6 In relation to the NERC Act 2006 and local interests it is also recommended that the applicant agree in writing with the council's Ecological and Environmental Adviser the scope of possible effects on all species and habitats listed in section 42 of the Natural Environment and Rural Communities (NERC) Act 2006, or on the Local Biodiversity Action Plan or other local natural heritage interests.

8.4.2.7 Details of any proposed mitigation measures to prevent, reduce or offset adverse impacts to ecology and biodiversity should be provided, to include details of opportunities taken to create and/or restore BAP habitats as part of the restoration proposed for the site prepared in consultation with the relevant consultees. An assessment of the likely effectiveness of any mitigation measures should also be provided.

8.5 Radiological issues

8.5.1 Introduction

8.5.1.1 The council notes that it is not the intention of the applicant to consider radiological issues for off-site power station facilities. Whilst this approach is possibly correct, the council would wish to see the statement linked to evidence, for example from

environmental monitoring data published in the context of the existing station and baseline data derived from the EIA monitoring campaigns.

8.5.1.2 The introduction section also states that construction activities will not generate radiological issues. The council appreciates that a certain amount of groundworking will take place under the SPC contract but would still expect substantiation of the claim that there will be no radiological impact from construction activities. In particular, consideration should be given to existing contamination in soil that could be re-suspended as dust, groundwater through dewatering or marine sediments being disturbed by the construction of the water discharge and intake systems and the MOLF. The scoping chapter does not mention decommissioning and the applicant's approach to the consideration of radiological issues associated with decommissioning should also be set out within the ES.

8.5.2 Existing Environment

8.5.2.1 The ES should consider summarising the baseline data within a table and consideration should also be given to RIFE monitoring data.

8.5.2.2 In the third paragraph, whilst a comparison to the overall dose is interesting the council considers it more meaningful to compare the 6 uSv Wylfa dose to the annual dose limit of 1 mSv.

8.5.3 Potential radiological issues.

8.5.3.1 The council considers that more information is needed to explain the basis of the judgements made. For example the inclusion of a table within the ES collating the doses to humans and biota derived from the three sources given in the bullet points on page 115 would be useful. In presenting the doses from these other sources consideration needs to be given to the following: total power output (e.g. the dose from GDA needs to be multiplied by two), the likely effect of higher or lower effective release heights for atmospheric discharges, the likely effect of greater or smaller distances of human and non- human receptors considered in the other

studies. All could make significant differences to the doses, particularly when compared to the small changes to discharge data after GDA.

8.5.3.2 Reference to legislation and NRW /EA documentation to justify the comment that human doses of 20 uSv and non-human of 10 uGy are "insignificant" should be provided within the ES.

8.5.4 Proposed Scope and Assessment Evolution

The council considers that the scoping section of the ES should introduce and explain the concept of the local representative person (expected to get the highest doses) as well as the fact that some radionuclides can become globally distributed and therefore give a tiny dose to the global population. These different receptors need to be distinguished as they are covered by two different assessments.

8.6 Soils and Geology

8.6.1.1 The overall methodology proposed to assess the potential effects upon soils and geology is considered acceptable. The council would wish to see however more information concerning the scope of the ongoing site investigations and presumes that the identified solvent (and other) contamination will be adequately addressed within the site investigation. Clarity is also sought as to why the proposed study area differs in geographic scope, extending to 2km 'upstream' of the southern side of the power station yet 1km to the east and west.

8.6.1.2 The council notes that Figure 13.2 shows the drift geology not the bedrock geology as stated.

8.6.1.3 The site lies within a geological area identified as Category 2 Aggregate Safeguarding Area within the 2012 BGS & Welsh Government map. It is noted that the Category 2 geology within the area is that of quarzitic sandstone, sand & gravel and igneous rock. None of these are identified within a Minerals Search Area as part

of the current development plan or proposed JLDP. Notwithstanding, the EIA should acknowledge and identify the status of the resource in policy terms.

8.6.1.4 If the reserve on site is to be sterilised, the potential effect of that sterilisation should be covered within the appropriate documentation prepared in support of the application. In this regard the use of construction methods which utilise the pre extraction and utilisation of category 2 aggregate from the site could be balanced against the sterilisation of mineral resource and justified within the proposal for the generating station.

8.6.1.5 It is acknowledged that the applicant references the preparation of a Materials Management Plan. A draft Plan should be submitted with the ES (and secured via a requirement of the DCO). The plan should provide information on the type, location and amount of material required during construction. The council's minerals and waste planning service, The North Wales Minerals and Waste Planning Service can help the applicant in the identification of suitable aggregates and minerals materials should such be required.

8.7 Surface Water and Groundwater

8.7.1 Existing Environment

8.7.1.1 A separate section of the ES chapter should include for a list of the consultation undertaken with relevant stakeholders during the EIA process. The council would expect to have the ability to shape the approach to EIA, WFD assessment and FCA, in conjunction with NRW. The Flood and Water Management Act 2010 identified Isle of Anglesey County Council as the Lead Local Flood Authority for the district. The council is responsible for taking the lead in managing flood risk from local sources. This includes surface water, groundwater and ordinary watercourses and also where there is an interaction between these sources and main rivers or the sea. The council is also the regulatory body for Land Drainage Consents (under the Land Drainage Act (1991)) that may be required as part of the project.

8.7.1.2 The council has a number of detailed comments on the profile of the existing environment provided within the scoping report which it considers may be better provided to the applicant under separate cover. Essentially the council is concerned that some of the existing profiling of the existing environment uses data or refers to documents which have been subsequently updated. Furthermore there appears to be

a lack of detail provided in certain areas which the council would wish to see addressed within the EIA and subsequent ES.

8.7.2 Proposed S ope, Method logy an Cr teria

8 7.2.1 Th met odo ogy ho ld explain h w ffects pon surf ce and/or gro ndw ter ma c use i dire t e fects upo ther rece tor su h as ecol gi al eceptors. Th c unci is aware f N S N-6 olume 2 C.9.52 a d t e con er recorded by Government that no adverse effects would result from water resources and quality impacts on the Llyn Dinam SAC and that a detailed assessment of the groundwater connections between Llyn Dinam SAC and Wylfa should be considered at the detailed project stage. Clarity on this matter should be provided.

8.7.2.2 The council would expect to be able to comment on the applicant's methodology for identification of the surface water study area as this is not provided within the report. In particular the council would wish to see the catchment adjacent to (east of) Cameas included. It is very close to the development area (less then 250m) and the identification of the applicant's study area should employ a buffer to account for changes in location/design as the EIA progresses including this catchment even as a precaution.

8.7.2.3 Further information should be provided on how the catchments in the surface water study area been defined and the applicant should state its confidence that there is no hydrological pathway between adjacent catchments. Again, further justification for the surface water study area is recommended and until this is provided the council cannot agree to its scope.

8.7.2.4 The scope should also consider resources receptors in the surface water study area, such as surface water abstractions.

8.7.2.5 The groundwater study area appears to be logical although its method of identification is unclear and the council recommends that it refer to groundwater flow patterns as evidence for its extent.

8.7.3 Assessment methodology

8.7.3.1 The council believes that the text on significance of effects requires clarification and should be based upon the value (of a receptor) and the magnitude of the impact/change on that receptor. The ES must include criteria for value or magnitude

and the council would encourage that further information on the approach to the assessment of significance is shared with it prior to the assessment of effects.

8.7.3.2 Sensitive receptors identified for the groundwater assessment should include groundwater water quality whilst in respect of the fluvial geomorphology assessment, it is unclear why the bed and banks of the river systems are the only features being assessed. The council believes that the assessment should include impacts on their floodplains.

8.7.4 Assessment criteria

8.7.4.1 Reference is made to major, minor and low being categorised as significant and reference is made to comments made earlier within this document as to the need for clarification as to what may be classed as significant in EIA terms.

8.8 Coastal Processes and Coastal Morphology

8.8.1.1 The council would defer to Natural Resources Wales on matters of coastal processes and morphology.

8.9 The Marine Environment

8.9.1 Water Quality

8.9.1.1 Section 16.2.2 references water quality. Consideration should be given, either within this chapter, or the socio-economic chapter (tourism) to the status of Cemaes bay bathing water quality which is was judged to be only 'sufficient' during 2015. Whilst the case of deterioration appears to be as a result of primarily agricultural and domestic activities (the council has been working with NRW to identify properties with sewerage connections into the sea for example) mitigation measures need to be in place to prevent sedimentation entering the bay to maintain and if possible enhance the water quality of the bay. Such measures need to be designed to cope with heavy rainfall events.

8.9.2 Conservation designations

8.9.2.1 The applicant notes NRW's current consultation on possible changes to marine SACs and SPA in Wales. The applicant notes that it will continue to liaise with

NRW on this matter and the council advises that equal weight is given to these proposed designations as is given to existing designations.

8.9.3 Potential Effects and Mitigation

8.9.3.1 Construction effects should include for effects upon qualifying species, particularly terns. The ES should consider the intra-development effects upon receptors, particularly seabirds. The amount of development proposed at the western end of the site, commencing with the SPC but extending through the main site works and the subsequent level of disturbance that may result both on and immediately off shore that could be caused over many years will have a cumulative impact which will require careful consideration particularly with regard to the cumulative effects upon seabirds.

8.10 Archaeology and Cultural heritage

8.10.1 Baseline

8.10.1.1 The council recognises that due to recent archaeological survey and evaluation that much of the archaeological baseline referenced within the chapter requires updating. Similarly, in light of the recent evaluation it may be appropriate to re-evaluate the significance of some of the buried archaeological remains (in particular those mentioned in 17.2.1.1). Furthermore other sites previously recorded but not investigated may have been reassessed as being of far greater importance since the data was gathered to inform the scoping report. For example, the recently discovered Roman Fort at Cemlyn (PRN37976) was previously recorded as a late prehistoric enclosure just to the west of the development area but is now being considered for scheduling as a legally protected Ancient Monument, meaning that impacts on its setting need to be considered more carefully than previously thought.

8.10.2 Potential Effects and Mitigation

8.10.2.1 The applicant correctly identifies that Cestyll Gardens will experience a major effect. It is likely that Cestyll Garden may benefit from a statutory designation under the Historic Environment (Wales) Bill which is awaiting Royal Assent. The applicant should consider whether it is appropriate to liaise with and seek early sight of emerging guidance on the assessment of setting from CADW or whether to adopt current English guidance. Horizon should also satisfy itself that its assessment

includes for the change in status of Historic Parks and Gardens in Wales and any possible changes to the grading of other assets and greater value given to HERs.

8.10.2.2 It is suggested that that the mitigation measures set out in 17.3.3 include for publication and wider dissemination of archaeological results (for example through publication of discoveries and / or on site interpretation / visitor centre).

8.11 Socio-economics

8.11.1.1 Overall the council considers that the chapter covers most of the areas expected in the existing environment section. Further clarity and transparency could be given on the proposed scope, methodology and criteria.

8.11.2 The Existing Environment

8.11.2.1 The existing environment section covers all of the expected topic areas but the council would suggest some additions for consideration within the ES:

- More detailed information will be needed on the current local skills and occupations supply so that later in the assessment consideration can be given to how this compares to the demand needed for Wylfa Newydd. This is important for planning local training and skills delivery to enable local residents to apply for opportunities associated with the generating station.

- The population and demography section of the ES should consider the issue of deprivation in the Daily Construction Commuting Zone (DCCZ) and demonstrate an understanding of its causes. Wylfa Newydd has the potential to generate a significant number of jobs for local residents and this could be helpful in tackling deprivation if appropriate measures are put in place.

- More information will need to be provided on the local business population with greater detail on the sectors that could benefit from supply chain opportunities and an analysis of business start-up levels.

- The section on public services will need to look at local capacity issues in more detail. For example primary schools in some areas have no spare capacity whilst in others there is excess capacity.

- Section 18.2.6 (paragraph 5.) In addition to those speaking, reading and writing in Welsh it would be appropriate to include within the ES baseline the proportion of Anglesey's residents speaking Welsh (57.2% with 64% in Gwynedd).

8.11.3 Potential Effects and Mitigation

8.11.3.1 The broad topics to be assessed for potential effects and mitigation are appropriate to the nature and size of the development. The following need to be included in the assessment:

- the employment assessment should also review impacts on wage inflation and competition.
- Displacement effects need to be considered throughout all of the topics and are considered by the council to be a priority.

8.11.4 Proposed Scope, Methodology and Criteria

8.11.4.1 There are a number of areas which the council considers the ES will need to address in addition to those presented within the socio-economics chapter of the scoping report. These include:

- Transparency will be necessary throughout every topic assessment in terms of the data sources used, the methodological approach, any calculations made, and justification for the assessment of effects. Without presenting these details it will not be possible for the council to validate the findings of the assessments.
- There are a number of improvements that could be made to the proposed study areas and assessment scope (Table 18.1):
  - The Local Areas of Influence boundaries should be joined together into one larger area as residents living between the two boundaries are likely to be affected to a similar extent as those living inside the boundaries.
  - The KSA assessment scope should consider the same scope as the Local Areas of Influence study area (with the exception of air and noise assessments).
  - The KSA does not align with the most recent 2011 Travel to Work Areas (TTWA) and is based on the older 2001 TTWA. This means that Llanberis is excluded from the KSA whilst Llanfairfechan and Penmaenmawr are included.
  - The DCCZ is based upon a 90 minute drive time analysis. 2011 Census data shows that 90% of commutes originating in Anglesey are within 40 minutes. Therefore the council recommends consideration of a 40 minute drive time area as well as the 90 minute DCCZ because the majority of worker movements and thus socio-economic effects will be concentrated in this area.
  - The council would request that the ES include more detail on how the 90 minute drive time DCCZ was calculated as it is based on an outdated 2005 Workforce Mobility and Skills in the UK Construction Sector report (updates were made in 2008, 2012 and 2015) which researched the distance travelled in miles, not time. The latest 2015 survey indicates that people are travelling

shorter distances than in 2005 and that workers in Wales travel shorter distances than workers in the UK as a whole.

8.12 Public Access and Recreation

8.12.1.1 The scoping chapter identifies the potential effects associated with construction. It includes for the potential influx of construction workers to push existing recreational facilities to a point of over-capacity. This potential is also recognised by the council and the ES should set out the measures that will be taken to mitigate such effects. Notwithstanding this comment however, the council questions whether this effect is as a direct result of the construction of the generating station or is more appropriately considered as a cumulative effect with other intra-project developments (ie the TCPA application for workers accommodation). Alternatively it may be that such effects could occur as a result of the on-site accommodation alone. Given the inter-related effects of the generating station and the other intra-project developments it is vital that the applicant's assessment clearly identified and considers all potential cumulative effects.

8.12.1.2 The potential operational effects focus upon the PRoW network and should be expanded to include the operational effects upon recreational users of the National Trust land and other areas used for public recreation within the study area particularly as a result of operational views, noise and lighting etc.

8.12.1.3 Reference to mitigation which includes PRoWs is understood to also include the diversion of the Wales Coastal path and the council is presently in discussion with the applicant with regard to the most appropriate alternative route. Mitigation may also include for off-setting such that additional sections of the coastal path may also be brought forward by Horizon in compensation for the loss of footpath as currently proposed. The Council's response at PAC1 suggested such a location. Government policy advice as set out within NPS EN-6 Volume II identifies that mitigation measures should be considered by the applicant on the matter of coastal recreation and access to the coast advising that the decision-maker consider the implications for development of the creation of a continuous signed and managed route around the coast. The council will expect to see such proposals within the ES document.

8.12.1.4 The extension of the study area to 2km from the edge of the development area is welcomed. Within the study area all public footpaths and other rights of way, coastal paths, cycleways, and areas of recreation should identified. Identification

should extend to rights of ways outside the study area in order that the way in which the local network is integrated into the wider area network can be understood.

8.12.1.5 It is noted that information will be provided on the usage of the access and recreation network within the study area in order to inform the assessment of significance. It will be important for the ES to identify the nature of effects upon the rights of way network, the extent to which effects are likely to be direct or indirect and the extent to which they will occur during either part or all of the construction phase and operational phase. Plans showing the temporary and permanent diversions proposed should be provided.

8.12.1.6 The reference to enhancement and to an overall benefit from the Wylfa Newydd Project in respect to public access and recreation is welcomed.

8.13 Traffic and Transport

8.13.1.1 The methodology proposed to assess the potential environmental effects arising from traffic and transportation associated with the project is considered to be appropriate. The council recognises the applicant's reference at the end of section 20.2.7 to the seasonal variation in current traffic numbers and would comment that the worse-case (presumably the off-peak tourism season) figures be adopted unless specific deliveries are to be timed to occur at specific times of the year and this is secured in the DCO.

8.13.1.2 Section 20.3 lists the potential effects and mitigation which includes the provision of associated developments such as park and ride and the logistics centre together with management strategies. The ES should set out how the mitigation will be secured so that, for example in the case of a management strategy, a specific requirement is contained within the DCO. The list should also include for the provision of the Integrated Traffic and Transportation Strategy (ITTS) which is referenced at 20.4.1 and could be extended to include the applicant's proposals for works to the A5025; if these are to be completed prior to the commencement of the generating station project.

8.13.1.3 Section 20.4 lists further work to be undertaken which includes for consideration of traffic movements associated with site preparation and clearance (SPC). The council understands that the SPC will constitute an intra-development project consented via

the TCPA. Clarification as to whether SPC traffic movements will be incorporated within the project assessment or within the cumulative assessment is sought.

8.13.1.4 The council looks forward to discussing the draft ITTS with the applicant at the earliest opportunity and understands that it will cover all elements of the wider project, (ie the TCPA and DCO applications).

8.13.1.5 Section 20.4.2 in the first paragraph references the SPC and as per the above comment, clarification of how this is to be treated within the assessment is needed. The council acknowledges the commitment to consider off-island traffic impacts, particularly at the point they cross the Britannia Bridge. Impacts should consider both HGVs and home based construction workers. The management strategies should also identify the arrangements to be put into place for times when the Britannia Bridge is closed to high sided vehicle due to bad weather. Mitigation in the form of 'lay-over' areas either side of the bridge may be appropriate.

8.13.1.6 The routes identified for construction traffic appear to be appropriate given the level of current knowledge which the council holds on the project. The routes should include the highways used to access the main site from each of the proposed associated development locations. Reference is made to Figure 15.01, this figure does not appear to be included with the scoping report.

8.13.2 Methodology for Traffic Modelling

8.13.2.1 The council welcomes the commitment to include for an allowance of vehicle movements associated with the Wylfa decommissioning.

8.13.2.2 The approach to the identification of traffic numbers incorporating construction traffic plus baseline (figure 20.5) is considered to be appropriate. If it is the intention that the A5025 improvements will complete during the construction phase for the generating station, rather than prior to the construction phase, then Horizon may wish to consider a 'before and after' assessment particularly when considering issues such as severance and stress.

8.13.2.3 For clarity, the council assumes that the assessment of operational effects will include for an allowance for journeys to the proposed visitor centre the MEEG and the ESL/AECC.

8.13.3 Specific Methodological Approaches

8.13.3.1 The council welcomes Horizon's intention to encourage arrival onto Anglesey by train which is complaint with its supplementary planning guidance policy (Wylfa Newydd SPG GP14 Transport). The specific methodological approaches appear to

be valid and the council welcomes the intention to consider severance even where existing road usage is below 8000 AADT. As noted above, the issue of severance is likely to be mitigated for certain communities as a result of the A5025 improvements and the ES should set out at what stage during the construction of the generating station these improvements will become operational.

8.14 Cumulative effects

8.14.1.1 Subject to the points made in previous sections regarding the need for the ES to include a comprehensive cumulative assessment, the overall approach to cumulative assessment is agreed by the council with the exception that the council would wish to see the topic of human health considered within the assessment. Whilst the applicant proposes to prepare a Health Impact Assessment, the council notes the applicant's reference in section 2.1.4 of the scoping report for the EIA to include for the forthcoming requirements of the EIA Directive 2014/52/EU. A number of topics are identified within the scoping report propose to consider the issue of human health individually, the potential for in-combination effects as a result of the generating station, and the wider project elements, should also be considered within the cumulative assessment.

8.14.1.2 Comment is also provided in the introduction to this document on the importance of the Welsh Language and a suggested approach is provided to ensure that consideration of this matter runs throughout the EIA process. The cumulative assessment chapter of the ES would be the appropriate place to bring together the individual topic considerations and to identify any wider, cumulative effects.

8.14.1.3 The applicant should ensure that its overall approach is consistent with the Planning Inspectorate's Advice Note 17, Cumulative Effects Assessment.

8.14.1.4 Additional comments are provided below.

8.14.2 Temporal Limits

8.14.2.1 Reference is made to current project timescale is presented in figure 3.3 which appears to be incorrect. The council would appreciate sight of the current project timescales and welcomes consideration of the A5025 as an intra-project development and presumes that the SPC would be categorised similarly. Clear and up to date information regarding the development programme and likely timings is vital if the

public and stakeholders are to properly understand the nature and scale of the potential impacts of the project.

8.14.3 Figure 21.2 Combined Study Area

8.14.3.1 The council would expect that a study area for traffic and transport be indicated, similarly a combined study area for landscape and visual effects and potentially residential amenity effects should be included. Reference to the spatial extents as shown in Figure 21.1 as being flexible is recognised.

8.14.4 RFFPs

8.14.4.1 The council notes the projects listed and agrees with the reference contained within the scoping report that further discussion on the long list with consultees will be appropriate. With regard to cut-offs, the council suggest that a period four months before submission of the application would be appropriate in line with the advice provided within the 'Approach and methodology on Environmental and Cumulative Impact Assessment' provided by the IACC, dated July 2014.

8.15 Additional Topic Areas suggested by the Council

8.15.1.1 A Residential Amenity Assessment should be undertaken to consider potential effects on occupiers of residential properties affected by the development. The assessment should include for the consideration of visual effects as well as effects arising from noise, dust and lighting. The assessment should consider the construction and operational phases with an overview of potential effects at decommissioning provided also. The potential for artificial light to create a Statutory Nuisance (under the provisions of the Environmental Protection Act 1990 (as amended) should also be scoped into the assessment with regard adjacent residential properties.

9 Conclusion

9.1.1.1 This document represents the council's response to the Wylfa Newydd Generating Station Scoping report 15 march 2016. In providing this response the council has been conscious of previous comments it has provided to the applicant at PAC1, in response to questions posed on the EIA Progress Report and through the many meetings and communications held with regard to individual environmental topics. The council remains committed to both formal and informal consultation with the applicant throughout the process of EIA.

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Foreword

The Isle of Anglesey County Council (IACC) is developing the Anglesey Energy Island™ Programme which is a collective effort between public and private stakeholders working in partnership to put Anglesey at the forefront of energy research and development, production and servicing.

The programme comprises a mixture of energy streams, including nuclear, wind, tidal, biomass and solar; together with associated servicing projects. As new projects come forward for development, environmental impact and cumulative impact assessments will be required to ensure that they are developed, constructed and operated sustainably and without adverse effects on the local environment, society or the economy.

Since the Anglesey Energy Island™ Programme encourages a range of large development projects to be brought forward over a relatively short period of time, there is a high potential for temporal and spatial overlap of the impacts, particularly those that are associated with the construction phases of these developments. These are the potential cumulative impacts between developments which are often missed or underestimated when assessors focus only on their own projects.

This document has been prepared to provide a standardised methodology and terminology for Environmental Impact Assessment (EIA) and Cumulative Impact Assessment (CIA) for use by both developers and IACC officers. The methods provided will help developers to produce assessments of an acceptable, common standard and to identify appropriate mitigation to ensure that adverse impacts are addressed. The standardisation of EIA and CIA methodology across projects will allow IACC to evaluate and compare the potential impacts of a wide range of different types of developments. The main purpose of this document is to provide a coordinated approach to CIA and to help developers understand what the IACC expect of them. This includes sharing project baseline environmental data, development design data and EIA information between the IACC and other developers, so that cumulative impact assessments can be as well informed and hence as accurate as possible.

The adoption of common data and consistency in approach and methodologies can be highlighted in the statement of common ground jointly submitted by the applicant and the council to accompany the DCO applications.

1. Introduction

1.1 Purpose of this document

The purpose of the document is to provide a standardised approach for the terminology, description and assessment of both environmental and cumulative impacts associated with developments of relevance to the Isle of Anglesey. A standardised approach is considered necessary to permit realistic and accurate comparisons of the significance of impacts across all disciplines covered in EIAs associated with proposed and existing consented developments whose construction phases may overlap either spatially or temporally. The EIA and CIA approaches presented herein will reduce risk for project developers/promoters in the decision making process by ensuring that the expectations of IACC are met. Furthermore it is intended to ensure consistency in the review and feedback provided by IACC on cumulative impact issues. It will also assist the process of defining fair and proportionate mitigation for significant cumulative impacts where these have been identified.

The potentially cumulative developments which are of greatest relevance to IACC will be those located physically on the Island but offshore developments and onshore developments located in the wider North Wales region may also need to be considered within the context of cumulative impact assessment (CIA). Cumulative Impact Assessment (CIA) is recognised as a complex and often poorly understood activity, depending heavily on good quality and transparent Environmental Impact Assessment (EIA) of potentially cumulative developments. Accordingly, this document provides a clear description of generic EIA methodology as well as methods for carrying out CIA.

Inherent in a standardised approach for CIA is a standardised method, involving standard terminology and standard definitions, for EIA. Acknowledging that the CIA process may involve assessing the cumulative impacts associated with developments for which EIAs have already been produced, this document also provides methods for aligning existing EIAs into a standard format so that subsequent CIA comparisons between developments can be carried out robustly.

The IACC will play a pivotal role throughout all stages of the CIA process. The evolving and up to date database of on-going developments and plans held by the IACC will provide an essential starting point for all developers conducting both environmental and cumulative impact assessments. Not only will developers consult the IACC as statutory planning authority or as a key stakeholder or committee at the inception of their assessment processes, the IACC, through their online database and GIS facilities, will be the sole

controller of all relevant development-related information for EIA and CIA work on Anglesey.

At the same time as EIA and CIA is being carried out, there may be the requirement for a Habitats Regulation Assessment (HRA) if the development lies within or adjacent to or is likely to affect, a European Site that is designated for its nature conservation interests. There are similarities between a Habitats Regulation Assessment (HRA) and CIA, but their relative roles (and terminologies) are different. Further discussion of the relationship between HRA and CIA is provided in Section 4.

1.3 Structure of this Guidance

Including this introduction, this document comprises five main parts, with associated appendices as follows:

- Introduction
- EIA and CIA legislation
- EIA definitions and methodology
- Overview of CIA requirements and best practice – this section presents 'best practice' guidance with respect to different types of developments and discipline-specific guidance and defines types of cumulative impacts
- IACC CIA Methodology – this section defines the role of IACC and the Developer in the CIA process and presents the methodology with respect to screening, scoping, assessment and mitigation

2. EIA and CIA Legislation

Under the Environmental Impact Assessment Regulations[1], development that is considered likely to have significant effects on the environment must be subject to Environmental Impact Assessment (EIA). An Environmental Statement (ES) is required to be submitted with the planning application or other consenting mechanism to ensure that environmental issues are given due consideration during the decision making process. Schedule 1 of the Regulations lists those developments for which EIA is mandatory, whilst Schedule 2 describes projects for which the need for EIA is judged by the Planning Authority on a case-by-case basis. Schedule 3 describes the criteria to be used by the Planning Authority to determine if a development is 'EIA development'.

The Regulations prohibit the planning authority from granting consent for EIA development without taking into account the findings of an ES, together with any other relevant environmental information. Schedule 4 specifies the information that must or may be provided in an ES (depending on the nature of the anticipated significant effects) which should include:

*"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 (various issues)…"*

An interpretation of Schedule 4 leads to the conclusion that an ES should include an assessment of the predicted effects of the proposed development, focusing specifically on those effects that are considered likely to be significant, though the Regulations do not define significance. The principle applies equally to cumulative effects.

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 SI No. 2263 (herein referred to as the 'EIA Regulations') require that the likely cumulative impacts of proposed development(s) that fall within the scope of the EIA Regulations are assessed as part of the environmental impact assessment of that proposed development.

In their Guidelines for Environmental Impact Assessment (2004), the Institute of Environmental Management and Assessment (IEMA) define cumulative impacts as:

[1] The EIA Regulations implement Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (as amended by Council Directive 97/11/EC). The relevant regulations include The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 in England and Wales. Where a windfarm development exceeds 50MW in installed power the regulations come through the Electricity Works (Environmental Impact Assessment) regulations pertinent to that country.

'…the impacts on the environment which result from incremental impacts of the action when added to other past, present and reasonably foreseeable future actions…'

A useful principle in considering cumulative effects is enshrined in PPS1 Delivering Sustainable Development, which states that there should be *"…recognition of the limits of the environment to accept further development without irreversible harm."* Cumulative impact assessment seeks to ascertain if a combination of developments is likely to reach or exceed such limits.

To avoid doubt about definitions and to ensure compatibility between the Environmental Statements and associated CIAs produced for different developments which are of interest to IACC, this section describes, in a generic sense, how EIA is carried out. More critically, it provides terminologies and definitions that can be used by developers to align their EIA methodology to ensure consistency of approach.

EIA is divided into four main parts (as outlined below).

- Impact Assessment
- Impact Mitigation
- Residual Impacts
- Cumulative Impact Assessment

The following paragraphs provide a description of the generic methodologies for impact assessment, mitigation measures and residual impact assessment.

While this generic methodology underpins the impact assessments for all environmental disciplines, it should be noted that in some cases subject-specific impact assessment methodologies are provided by guidance issued by professional institutions and organisations, such as those for landscape and visual impact assessment, air quality, cultural heritage, ecology, etc. It is expected that, where appropriate, discipline experts will have used their professional institutions' methodology to carry out the EIA and hence aligning assessments between developments where such recognised methodologies apply should be a simple process. Where there is no such methodology or guidance, or where it has been applied in an unconventional way, the generic EIA guidance presented in this document should be used to align assessments.

For the socio-economic discipline there is no standard approach to impact assessment and as such the methodologies used vary significantly in scope and scale between projects where EIA is applicable. This makes the CIA process more difficult in these instances as there is variable detail for considering wider cumulative impacts between projects. Further guidance on the approach to socio-economic impact assessment is provided within Section 3.

3. Environmental Impact Assessment Definitions and Methodology

3.1 Environmental Baseline Reporting

The first step in EIA is to provide a comprehensive description of the baseline environmental, social and economic conditions of the geographical area which may be influenced by the proposed development. The scope of an environmental and socio-economic baseline assessment and report is defined by the EIA scoping process, which usually requires the developer to submit a scoping report to the determining authority (in this case the IACC) for their agreement. Once the scope of environmental and socio-economic disciplines has been agreed, a gap analysis is carried out, followed by data collection and survey work designed to fill identified gaps. Further information on defining the scope of the socio-economic baseline and identifying socio-economic impacts is described in Section 3.3.

3.2 Methodology for Environmental Impact Assessment (EIA)

Once the environmental and socio-economic baseline has been fully characterised, the environmental impact assessment is a logical activity, involving a number of chronological steps. In the approach outlined below there are eight chronological steps, leading to the assessment and description of each **significant** impact. Throughout this document, the terms 'environmental impact' and 'environmental impact assessment' are assumed to include the assessment of socio-economic impacts.

Step 1 Identify socio-economic and environmental receptors, value them and assess their sensitivity to different kinds of socio-environmental change that may be caused by the activities associated with constructing, operating and decommissioning a development.

Step 2 Assess what kinds of environmental and socio-economic change might be caused by the proposed development during its construction, operation and decommissioning/removal.

Step 3 Identify where there is potential for there to be an interaction between environmental/socio-economic change and a receptor.

Step 4 Assess whether any interactions between environmental or socio-economic change and a receptor could lead to a potential impact on that receptor and if so, assess the significance of that impact.

Step 5 Define what constitutes a significant impact, given the types of receptors identified and the nature and character of the receiving environment. This will involve defining levels of impact magnitude, levels of receptor value and sensitivity and the likelihood of the impact occurring.

Step 6 Carry out the assessment of impact significance using the criteria defined in Step 5 and the impact assessment matrix to assist professional judgement.

Step 7 Where an impact has been assessed as being insignificant using the criteria defined in Step 5, scope this impact out and justify explicitly why this decision has been reached.

Step 8 Where an impact has been assessed as being significant using the criteria defined in Step 5, provide a description of each significant impact using the definitions provided below.

To assist in the definition of receptors, impacts and their assessment, further guidance based upon a source-pathway- receptor approach to assessment is provided in the following paragraphs.

3.2.1 What is a receptor?

A receptor is any element of the receiving environment which is affected by any type of environmental change caused by the development. Examples of environmental receptors include: native flora and fauna, domestic or agricultural animals, the quantity or quality of water in a stream or in private or public water supplies, air quality, landscape appearance and quality, historic and archaeological assets etc. Examples of socio-economic receptors include: the health, wellbeing, traditions language and culture of local people, their access to services such as health care and schooling and local economics and demographics.

3.2.2 Identifying interactions between environmental and socio-economic change and receptors

The simplest way to identify an interaction between a receptor and any type of environmental change likely to be caused by the development during its construction, operation or removal, is to create an interaction matrix of all possible activities (y-axis) against all environmental receptors (x-axis). An example of part of such a matrix is provided in Table 1 below.

Table 1: Identifying Interactions between development activity and receptors

	Ecology					Hydrology				Air Quality				Socio-economic			
Development activity	**Vegetation**	**Ornithology**	**Badger**	**Bats**	**GCN**	**Groundwater**	**Hydrology**	**Water quality**	**Private water supplies**	**Local residents**	**Vegetation**	**Agricultur5al land**	**Agricultural crops**	**Businesses**	**Local residents**	**Labour market**	**Social infrastructure**
Construction Phase																	
Land take	√		√		√									√	√		√
Excavation of spoil	√		√			√	√	√	√		√	√	√				
Temporary drainage	√				√		√	√	√								
Construction plant			√														
Use of concrete	√							√									
Construction workforce										√					√	√	√
Laydown of materials	√					√	√	√	√								
Nighttime working		√		√						√					√		
Construction traffic			√							√					√		√
Operational Phase																	
Operational traffic			√							√					√		√
Operational workforce										√					√	√	√
Operational emissions															√		

Operational drainage	√	√	√	√
Operational discharges	√	√	√	√

Once a potential interaction has been identified by the discipline expert, professional judgement is used to determine whether there is the potential for that interaction to result in an impact.

3.2.3 What is an impact?

An interaction becomes an impact if it is assessed that the receptor would be changed in any way by any project activity. Thus, the impact is something that acts on a receptor and is described in terms of its effect on that receptor. The first part of the impact assessment involves describing the impact according to criteria such as those provided below.

3.2.4 Impact description

Following their identification, significant impacts are described on the basis of their nature and duration as follows:

- **adverse**: impacts that have a negative influence on a receptor;
- **beneficial**: impacts that have a positive influence on a receptor;
- **direct:** an impact which acts directly on a receptor. An example would be the discharge of pollutant to a watercourse – resulting in a direct impact on water quality.
- **indirect:** an impact which acts on a process or medium which supports a receptor – e.g. deposition of aerial pollutants onto the leaves of a plant is a direct impact while the deposition of aerial pollutants onto the soil – adversely impacts soil quality which then has an *indirect* impact on plant health.
- **temporary**: impacts that persist for a limited period only (due for example, to particular activities taking place for a short period of time);
- **permanent**: impacts that result from an irreversible change to the baseline environment (e.g. land-take) or which persist for the foreseeable future (e.g. noise from regular or continuous operations or activities)
- **localised**: impacts that occur over a small geographical scale
- **widespread**: impacts that occur at a regional level, but which are unlikely to be significant locally;
- **cumulative**: impacts on the environment which result from incremental impacts of a development when added to other past, present and reasonably foreseeable future developments. Cumulative impacts can arise from either (a) the ***addition of several similar impacts*** on the same receptor (at the same time or cumulatively over different periods of time) or (b) the ***interaction of different types of impacts*** on the same receptor (at the same time or

cumulatively over different periods of time). Further definition of cumulative impacts, with examples are provided below.

3.2.5 Generic assessment of potential impacts

At the impact assessment stage, the potentially beneficial and adverse impacts of the development are identified and assessed with reference to the baseline environment. This requires consideration of:

- value and sensitivity of the receptor;
- extent, magnitude and complexity of the impact;
- impact duration (long, medium or short term);
- impact nature (direct and indirect; permanent or temporary; reversible or irreversible);
- the likelihood (probability) of the impact occurring;
- whether the impact occurs in isolation or is cumulative (additive or interactive); and
- performance against environmental quality standards or other relevant thresholds.

Environmental impacts are predicted with reference to definitive standards and legislation where relevant. Where it is not possible to quantify impacts, qualitative assessments should be carried out, based on available knowledge and professional judgment. Where uncertainties, limitations or assumptions exist, they should be stated.

The significance of predicted impacts is determined by reference to impact criteria for each subject/discipline. The significance of the impact gives consideration to the magnitude of the potential impact, the value and sensitivity of the receptor and the likelihood of the impact occurring.

In order to provide a consistent approach to expressing the outcomes of each of the assessments for each discipline, the following terminology and impact assessment matrix (IAM) is used to determine the degree of significance of the potential impact, moderated by professional judgment, where appropriate.

Throughout EIA it is highly beneficial to use the same EIA terminology across all disciplines to describe impact magnitude, receptor value and impact significance. This allows some potential for cross-discipline comparison of identified impacts. Some terms, such as 'significant' and 'insignificant' should be considered as special EIA terms and not used in general discussions unless being used in an EIA context.

Further details on determining the impact significance are provided below.

3.2.6 Impact Magnitude

Magnitude refers to the 'size' or 'amount' of an impact. It is a function of other aspects such as the impact's 'extent' (i.e. the spatial area over which the impact occurs), duration (i.e. the time for which the impact is expected to last prior to recovery or replacement of the receptor, resource or feature), likelihood (i.e. the chance that the impact will occur), and reversibility (i.e. an irreversible (permanent) impact is one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it).

In order to help define the level of 'magnitude', the following guidance has been adopted for the purposes of this generic EIA. It is based loosely on the example given in Scottish Natural Heritage (2005) (see Table 2). While this table provides generic guidance, it should be noted that each environmental discipline in the EIA should provide specific guidance in relation to impact magnitude. Examples of such discipline-specific definitions of impact magnitude, using the same terms for four levels of impact magnitude, are provided in Appendix A.

Table 2 Guidelines for the Assessment of Magnitude

Magnitude	Guidelines
High	Very significant, permanent / irreversible changes, over the whole development area and beyond (i.e. off site), to key characteristics or features of the particular environmental aspect's character or distinctiveness for more than 2 years. Impact certain or likely to occur.
Medium	Significant, permanent / irreversible changes, over the majority of the development area, to key characteristics or features of the particular environmental aspect's character or distinctiveness for more than 2 years. Impact certain or likely to occur.
Low	Noticeable but not significant changes for more than 2 years or significant changes for more than 6 months but less than 2 years, over a partial area, to key characteristics or features of the particular environmental aspect's character or distinctiveness. Impact will possibly occur.
Very Low	Noticeable changes for less than 2 years (i.e. temporary / irreversible), significant changes for less than 6 months, or barely discernible changes for any length of time, over a small area, to key characteristics or features of the particular environmental aspect's character or distinctiveness. Impact unlikely or rarely to occur.

3.2.7 Receptor Value and Sensitivity

The value and sensitivity of the receptor will be a function of a variety of factors e.g. biodiversity value, social/community value and economic value. The value or potential value

of a resource or feature can be determined within a defined geographical context. For example, the following hierarchy is recommended by IEEM (2006) with respect to ecological receptors:

- international;
- UK;
- national (i.e. England/Northern Ireland/Scotland/Wales);
- regional;
- county (or metropolitan - e.g. London);
- district (or unitary authority, city, or borough);
- local or parish; and
- within zone of influence only (which might be the project site or a larger area).

In order to help define the level of 'Value and Sensitivity', the following guidance, shown in Table 3, has been adopted for the purposes of this EIA. It is based loosely on the example given in Scottish Natural Heritage (2005). While this table provides *generic* guidance, it should be noted that each environmental discipline in the EIA should provide specific guidance in relation to receptor value and sensitivity. Examples of such discipline-specific definitions of receptor value and sensitivity, using the same terms for four levels of receptor value, are provided in Appendix A.

Table 3 Guidelines for the Assessment of Value and Sensitivity

Value and Sensitivity	Guidelines
High	Feature / receptor possesses key characteristics which contribute significantly to the distinctiveness, rarity and character of the site / receptor (e.g. designated features of international / national designation / importance such as SACs, SPAs, Ramsar sites, SSSIs, etc) and receptor is identified as having very low capacity to accommodate proposed form of change (i.e. is very highly sensitive). Feature / receptor possesses very significant biodiversity, social/community value and / or economic value. Feature/ receptor is extremely rare.
Medium	Feature / receptor possesses key characteristics which contribute significantly to the distinctiveness, and character of the site / receptor (e.g. designated features of international / national designation / importance such as SACs, SPAs, Ramsar sites, SSSIs, etc) and receptor is identified as having low capacity to accommodate proposed form of change (i.e. is highly sensitive). Feature

	receptor possesses significant biodiversity, social/community value and / or economic value. Feature/ receptor is rare.
Low	Feature / receptor only possess characteristics which are locally significant. Feature / receptor not designated or only designated at a local level. Feature / receptor identified as having some tolerance of the proposed change subject to design and mitigation etc i.e. is only moderately sensitive. Feature / receptor possesses moderate biodiversity, social/community value and / or economic value. Feature / receptor is relatively common.
Very Low	Feature / receptor characteristics do not make a significant contribution to the character or distinctiveness locally. Feature / receptor not designated. Feature / receptor identified as being generally tolerant of the proposed change (i.e. of low sensitivity). Feature / receptor possesses low biodiversity, social/community value and / or economic value. Feature/ receptor is common.

3.2.8 Impact Probability

With respect to the probability or likelihood of an impact occurring, the broad definitions identified in Table 4 have been applied.

Table 4 Definitions of Probability or Likelihood

Descriptor	%likelihood	Description
Certain	100%	Will definitely occur
Likely	75-99%	Will probably occur
Possible	25-74%	May occur
Unlikely	<25%	Do not expect it to happen but it is possible

3.2.9 Impact Significance

The concept of 'significance' is central to the EIA process. The classification of significance aids the identification of the main environmental impacts of a proposed development and also what weight should be given to these impacts.

There is no statutory definition of what constitutes a significant impact and available published guidance is of a generic nature. However, it is widely recognised that 'significance' reflects the relationship between the magnitude of an impact and the sensitivity (or value) of the affected environmental receptor. Statutory designations and any potential breaches of environmental law take precedence in determining significance because the protection afforded to a particular receptor or resource has already been established as a matter of law, rather than requiring a project or site-specific evaluation.

Defining what is likely to be significant is generally considered to be a matter to be resolved in part through the scoping process, in part through consultation and in part through professional judgment and best practice.

Using the magnitude of the impact, together with the values and sensitivity of the environmental receptor, the degree of significance of a negative impact is determined for every potential impact.

To assist in the assessment process, an Impact Assessment Matrix (IAM) is proposed to determine impact significance (see Table 5). An initial indication of impact significance (adverse or beneficial) is gained by combining receptor sensitivity (or value) and impact magnitude in accordance with the IAM. However, it should be noted that this only provides an indication of the likely impact arising from the assessment of impact magnitude and receptor sensitivity (or value). Given that the criteria represent levels on a continuum or continuous gradation, professional judgment and awareness of the relative balance of importance between receptor sensitivity (or value) and impact magnitude is also required.

Table 5 Impact Assessment Matrix*

Magnitude	**Values and Sensitivity of Receptor**			
	Very low	**Low**	**Medium**	**High**
Very Low	Negligible	Negligible	Negligible	Minor
Low	Negligible	Negligible	Minor	Moderate
Medium	Negligible	Minor	Moderate	Major
High	Minor	Moderate	Major	Major

*NB: it is important that the terminology used for different levels of impact 'significance' is unique and specific for impact 'significance' and is not the same as the terminology used for receptor value/sensitivity or impact magnitude.

Given the role of judgment in the assessment, there may be some variation between different disciplines in the significance rating process. This may be as a result of limited information on the sensitivity of receptors and / or the complexity of interactions that require assessment in determining magnitude of change of an impact. However, the ratings derived through the assessment process and as set out in Table 5 can also be described in a generic fashion as given in Table 6. The descriptors for the various ratings given in Table 6 can also be used as a framework for confirmation (or not) of the ratings gained through use of the matrix approach. The generic descriptions also provide a greater understanding of the nature, scale and type of determined impact. While this table provides generic guidance, it should be noted that each environmental discipline in the EIA should provide specific guidance in relation to impact significance. Examples of such discipline-specific definitions of impact significance are provided in Appendix A.

Table 6 Generic Description of Significance Ratings

Level of Significance	Description
Major	Very large or large change in environmental or socio-economic conditions. Effects, both adverse and beneficial, which are likely to be important considerations at a regional or district level because they contribute to achieving national, regional or local objectives, or, could result in exceedence of statutory objectives and/or breaches of legislation.
Moderate	Intermediate change in environmental or socio-economic conditions. Effects that are likely to be important considerations at a local level.
Minor	Small change in environmental or socio-economic conditions. These impacts may be raised as local issues but are unlikely to be of importance in the decision making process.
Negligible	No discernable change in environmental or socio-economic conditions. An effect that is likely to have a negligible or neutral influence, irrespective of other effects.

All beneficial impacts are identified as opportunities for project enhancement, to provide added value to the outcomes of the project. The descriptions of generic levels of impact significance in Table 6 would also be used to describe the significance of cumulative impacts. However, discipline-specific levels of significance, based on the discipline-specific definitions of impact magnitude and receptor value/sensitivity (in Appendix A) are also required for cumulative impact assessment as well as EIA.

3.2.10 Mitigation Measures and Hierarchy

The significance rating of the impact is the most important step in the EIA process since it is this rating which provides a strong indication as to whether mitigation may be required and also to determine whether, following the use of mitigation measures, identified impacts may be reduced to acceptable levels.

For the purposes of this EIA, and in accordance with the EIA Directive and the relevant EIA Regulations, only those impacts which are assessed as being of potentially greater than minor adverse significance have been initially considered as requiring mitigation. The purpose of mitigation in these cases is to reduce predicted impacts to levels that are determined as being acceptable (e.g. with respect to regulatory, policy and / or socio-economic requirements). Consequently, individual impacts rated as negligible or minor adverse have not been automatically considered as requiring mitigation. However, where appropriate, and taking into account views and comments received through consultation, consideration

has been given to the implementation of mitigation measures to reduce potential impacts to levels that meet less tangible socio-economic, cultural and environmental requirements.

The preferred hierarchy of mitigation is prevention first, then minimisation and only as a last resort, compensation / remediation. The definitions of these are as follows:

- **prevention**: avoid, relocate, modify the design etc;
- **minimisation**: modify location and design, alter technology, reduce size/scale of development
- **compensation / remediation**: provide replacement elements for any lost environmental elements (e.g. open green spaces, public facilities, wildlife area etc). When adverse impacts are unavoidable, it may be possible to limit the duration of an impact by undertaking remedial works. For example, the impact on the landscape of mineral extraction is largely unavoidable, but the land can be restored following the completion of extraction to complement or enhance the character of the landscape.

Mitigation should be built into the project (e.g. through modifications of the layout, the options chosen, or through alteration of the design). This is considered to be part of the design of the development and would normally be described as the evolution of the design once any environmental and/or socio-economic constraints had been identified during baseline studies. Mitigation built into the design of the development would normally be described as the 'evolution of the project design', as part of the consideration of alternative options which is a requirement of the EIA Regulations.

Where there are cumulative impacts of greater than adverse significance, the developers of the projects which contribute to the impact will share responsibility for mitigation. This concept is discussed in more detail in Section 5.5.3, with a selection of examples indicating how this approach might be adopted in practice..

3.2.11 Residual Impacts

The final step in the EIA process is the assessment of the residual impacts after the implementation (where necessary) of the proposed mitigation measures. Residual impacts are rated in accordance with the definitions provided in 2 and 3.

The EIA should state what level of impact significance is acceptable for the development that is being assessed. Normally impacts that are assessed as being of minor or less are considered to be insignificant and acceptable for the development.

3.2.12 Cumulative Impact Assessment

Cumulative impacts are those that result from incremental changes caused by other developments, and plans together with the proposed development or developments. These are defined and explained in detail in Section 5.

3.3 Socio-economic impact assessment guidance

3.3.1 Introduction and relevant guidance

There is no specific guidance that specifies the detailed content required for socio-economic assessments or that provides appropriate standards and thresholds for determining impact significance. However, there is a range of good practice guidance of relevance to socio-economic impact assessment, particularly in relation to employment impacts which are the primary driver within the socio-economic discipline. Socio-economic assessment and supporting baselines are usually undertaken with reference to such policy, guidance and standards where appropriate, as well as using professional judgement and experience.

The Department of Energy & Climate Change (DECC) Overarching National Policy Statement for Energy (2011) provides some guidance and states that where a project is "likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES". It states that socio-economic assessments should consider all relevant socio-economic impacts, which may include:

- the creation of jobs and training opportunities
- the provision of additional local services and improvements to local infrastructure,
- the impact of a changing influx of workers during the different project phases
- cumulative effects – if development consent were to be granted to a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region

Other examples of useful guidance include:

- Methods of Environmental Impact assessment, Peter Morris and Riki Therivel (eds), 2009,
- Guidelines for Assessment of Indirect and Cumulative Impacts, European Commission 1999.

- Guidance on using additionality benchmarks in appraisal (2009) BIS
- Occasional paper number 1 – research to improve the assessment of additionality (2009) BIS
- Additionality guide: 3rd edition (2008) English Partnerships
- Additionality and Economic Impact Assessment Guidance Note (2008) Scottish Enterprise
- Green book – appraisal and evaluation in central government (undated) HM Treasury

3.3.2 Interaction with other EIA topics and wider assessments

Given the lack of specific socio-economic guidance it is also useful to identify what is not included within the topic. Not included within the scope of the work is health impact assessment, equalities impact assessment and welsh language impact assessment. These should be developed as separate assessments outside of the formal EIA process.

Again a screening opinion as to whether or not these are included within a developer's planning application should be provided by IACC based on the regulations and their view in relation to significant impacts in these contexts. There are also a number of other environmental topics where there are potential interactions with the socio-economic topic. Primarily the interaction with socio-economic receptors comes from the air quality, noise/vibration, landscape and visual impact and transport assessment topics of the EIA.

3.3.3 Socio-economic resources, receptors and impacts

For the purpose of the EIA it is sensible to split the topic into social and economic elements. The next stage is then to define what the relevant resources and receptors are and the potential impacts on these. In the main these impacts are experienced by the resources and receptors identified in Table 7. The spatial scope and scale of impacts will be different dependent on the receptor, resource and type of impact. This is set out in more detail for a range of social and economic impacts in Table 8.

This work then sets out the starting point for the baseline data collection based on the widest possible interpretation of impacts, resources and receptors. Obviously the scale and scope of impacts and as such baseline and assessment will be different for each individual project. The requirements here need to be decided upon at the scoping stage with a view on what the likely significant impacts are in relation to socio-economic receptors and resources. In terms of the potential social and economic impacts of a project (during construction, operation and decommissioning) these can broadly be defined as follows:

- Demolition of, and land take from, social and economic resources

- Demands on businesses and community facilities resulting from the project and its workforce
- The economic consequences for local economies and communities including labour market

Table 7: Social and economic resources and receptors

Social resources	**Social receptors**
Residential property	Residents or tenants
Community infrastructure Health and social care facilities including GP practices and health centres, hospitals, hospices, residential care facilities, sure start centres, social work centres, health-related emergency services, dentists Educational facilities including day nurseries, primary schools, secondary schools, colleges, universities, other organised learning environments and education resource centres (which are not covered by libraries) Community centres, youth centres, and other relevant facilities used for local community meetings and activities Recreational facilities e.g. Sports centres and facilities, leisure centres and fitness clubs, public rights of way, visitor attractions	Users, pupils/students, patients, community groups, other beneficiaries
Economic resources	**Economic receptors**
Existing businesses Labour market	Employees Potential workforce

Table 8: Examples of socio-economic impacts and spatial scope

Theme	Impacts	Outcomes		Spatial Scope	Rationale for Spatial Scope
		On resources	On receptors		
Residential Property	Residential property (including gardens) lost in part or whole to land take	Reduction in housing stock available for people	Displacement of home owners/tenants, inconvenience and loss of their assets	Direct land take for project either for the scheme itself or for the construction	Only properties within the direct land take of the project will be directly lost
Community infrastructure, recreation infrastructure	Infrastructure lost to land take in part or in whole	Decline in facilities available for community use or temporary impairment of use	Loss of facilities and benefits for users, workers owners, and groups/ organisations.	Direct land take for the project itself or for the construction of the project	Only properties within the direct land take of the project will be directly lost
Existing businesses and organisations	Businesses lost in part or whole to land take	Loss or impairment of business activities	Change in employment and skills mix	Direct land take by the project for the scheme itself or for the construction of the project	Only properties within the direct land take of the project will be directly lost
Demands on local infrastructure associated with the construction workforce	Presence of construction workers with consequent requirements	Increased demand from construction workers	Reduced availability for users, workers, owners, and groups/organisations, including any differential equality and health effects	Distance to relevant infrastructure likely to be significantly used by construction workers.	If the infrastructure is needed by the construction workers then they are assumed to travel the distance required. Need to consider relevant drive times and catchments for

Theme	Impacts	Outcomes		Spatial Scope	Rationale for Spatial Scope
		On resources	On receptors		
					specific facilities and local context (see methodology)
Employment associated with construction	Direct employment opportunities associated with the construction phase	Demand for construction phase services	Demand for construction phase associated jobs and change in opportunities for local employment,	Travel to Work Area of construction sites for daily commute workforce and UK wide for migrant workers.	Travel to work areas offer a basis for determining the effect of the project on resident labour force. There may be a requirement to go beyond travel to work areas given the need for specialist skills and size of labour force,
	Indirect impacts on the economy of the construction phase	Indirect impacts on other construction sector projects, multiplier impacts on the wider economy	Demand for construction sector jobs and change in opportunities for local employment,	UK	Multiplier and displacement effects are likely to have consequences across the national economy.
Employment associated with	Direct employment opportunities associated with the	Demand for operational phase services	Change in employment and skills and change in	Travel to Work Areas associated with the project during the	Travel to work areas offer a basis for determining the effect

Theme	Impacts	Outcomes		Spatial Scope	Rationale for Spatial Scope
		On resources	On receptors		
operations	operations phase		opportunities for local employment	operational phase employment locations.	of the project on resident labour force.
	Indirect impacts on the economy of the operations phase	Indirect impacts on sectors of the economy, multiplier impacts on the wider economy	Change in employment and skills and change in opportunities for local employment	Induced effects are most likely to occur within North West Wales where the operational workforce is located. Indirect (supplier based) effects are likely to occur within the UK.	Multiplier and displacement effects are likely to have consequences mostly within North Wales/Wales.

3.3.4 Setting the socio-economic baseline

The extent and scope of the baseline for a project will ultimately depend on the specific characteristics of that project and a proportionate approach to impact assessment. Given the varying nature of projects that may come forward and be subject to EIA the availability of a consistent and well maintained baseline is critical to effective impact assessment. This is also of critical importance in assessing cumulative impacts across different projects in an objective and balanced manner.

The baseline for the socio-economic topic is a mix of both GIS based data identifying potential resources and receptors, data on the characteristics and existing capacity of these resources/receptors, alongside wider economic data on employment, skills, demographics and sector make up to determine a number of economic impacts. Given the wide ranging nature of the data and potential means of collation and analysis a central resource and metadata (see Appendix E) is also a helpful tool in managing the EIA and CIA processes.

a) Determining baseline content

It will be appropriate to identify the relevant geographies for the baseline. This will include identifying:

Impact areas–This will capture data on resources and receptors that are potentially subject to impacts from a development. Impact area level data will be collected through the mapping exercise outlined below. The impact areas vary by socio-economic impact with examples provided in Table 8.

Community areas – The purpose of the community areas is to build up a descriptive, contextual profile of local communities (e.g. living in villages, towns, neighbourhoods) in the impact area. They will present available baseline datasets which capture various demographic/socio-economic characteristics at a lower geographical level. For the purpose of data collection at this level, the community areas should be aligned as closely as possible with groupings of lower super output areas (LSOAs) and wards.

Comparator areas – All baselines will need to compare data to other areas. This will include as a minimum; the local authority, the sub-region and nationally. For labour market impacts it is most helpful to produce data at the travel to work area where this is possible. In some instances it may make sense to compare to other similar areas to compare trends.

b) Desk based baseline mapping

In terms of baseline mapping, a generic process will be to:

- Define and/or map the search areas/boundaries for the baseline (see Table 8)

- Collect data associated with each theme and impact (see Appendix E)
- Develop datasets for each theme
- Develop GIS maps to illustrate specific analysis.

Maps should be produced for all relevant socio-economic infrastructure (see Table 7) i.e. businesses, residential properties, community and recreational facilities extending up to the spatial scope for each type. The maps should initially show individual resources. However, where appropriate these can be grouped together where impacts are likely to be the same. For example, one point on a map could represent a number of businesses or a group of residential properties.

Socio-economic resources and receptors (including business, residential, community and other recreational facilities) should be identified and mapped initially using OS MasterMap Address Layer 2. This links any property address to its location on the map. It provides precise coordinates for more than 27 million residential and commercial properties in Great Britain. The data will need to be integrated in a Geographic Information System (GIS) to allow it to be viewed, edited, overlaid and managed. There are cost implications for using this software.

A business database can also be purchased such as Experian, Dun & Bradsheet, Yell and Thomson to identify these resources. These provide additional information on businesses including number of employees, turnover and contact details. Again, there is a cost implication. Likewise there are residential databases such as Proconnect and Experian which provides name, address and telephone number. From this process, it should be possible to identify the number of properties directly (and potentially indirectly affected by the project.

It should be noted that the data listed in Appendix E is not exhaustive and the Council is exploring with developers the potential for in independently worked website with GIS as a common repository for data which can be shared with developers and managed by the Project Management Office funded through the three respective PPAs with appropriate access and updating protocols. The aim will be for such data to be validated with data provided by the Welsh Government Knowledge Advisory Service wherever possible so as to avoid duplication of effort and further third party validation. It is intended that the site will also host common environmental survey information as well as socio-economic, Welsh language and other statistics.

c) Consultation

Consultation with relevant stakeholders should be undertaken to gather relevant local information that will inform the development of the baseline. For example, it may be

possible to gather further information about the resources identified through the mapping stage above such as users of a specific community facility.

d) Community profiles

This element is focused on collecting and presenting contextual social and economic data on the locally affected communities/areas. Community profiles would be developed for the impact areas and community areas and compared to the comparator areas. The datasets which should be collected are set out in Appendix D.

As noted the employment and labour market impacts need to be understood at a wider spatial scale to many of the environmental impacts. In many cases the relevant geography is the travel to work area, although in some instances the scale of major infrastructure projects means that in-migrant labour beyond the travel to work area will be a feature of projects, primarily during the construction phase. As such the comparator areas for employment, workforce and skills should be reflective of the relevant spatial scope.

e) Primary surveys

It is unlikely that further primary surveys will need to be undertaken. However, there should be consideration of the need for business/community organisation, household and/or open space surveys. The purpose would be to further understand the potential impacts on those resources that are directly affected by land take. For example, to understand the number of employees working in a particular business or the quality of open space lost. However, such surveys are expensive to run.

3.3.4 Socio-economic Impact Assessment

The assessment ultimately seeks to establish the potential economic and social impacts of the project, focusing on the significant impacts. The effects of the project are considered at varying spatial levels according to the nature of the effect considered, through comparison of the development with the baseline, consistent with relevant guidance. The overall framework for impact assessment is to determine:

1. The sensitivity of receptors/resources.
2. The magnitude of impact
3. The significance of impacts based on 1 and 2 above.
4. The generic methodology for this part of the socio-economic assessment is set out in Section 3 of the document.

Employment and Labour market impact assessment

It should be noted that the employment and labour market impact assessment has a different methodology to the standard EIA impact assessment as set out in Section 3 of the document. The critical element here is to understand the workforce requirements for projects during the construction and operational phases. Here the origin of workers and the extent to which they are in-migrants to the area is a major consideration as this not only determines the impacts on the labour market impacts but also the subsequent demand for services and infrastructure. For the socio-economic assessment this is the main driver of the impact assessment given the subsequent potential impact on population, infrastructure and services.

Employment impacts

This task covers drawing together and analysing information on construction, operational and decommissioning employment, for example including consideration of peak and average construction employment over the construction programme, and nature of construction skills. Where job data is unavailable, this task will involve converting project expenditures into job equivalents using average labour productivity assumptions drawn from construction industry data.

The treatment of employment impacts varies between EIA with some examples identifying gross jobs created and others using additionality assumptions to identify a net employment figure. Further to this the assumptions relating to the additionality and net job impacts will again vary depending on who has undertaken the assessment and their interpretation of the available guidance and specific project context. Similarly the availability of and approach to workforce profiling which identifies the origin of workers, the extent of in-migration and the likelihood of workers moving their families/households with them varies significantly within socio-economic assessments. This makes comparison of impacts for a development and relevant cumulative developments more difficult.

The factors to include within the additionality assessment to get to a net employment impact are the following:

Table 9: Additionality factors

Deadweight	Deadweight means considering what would have happened to the local economy in the absence of the project with respect to employment. Deadweight should be subtracted from the gross direct impact.
Displacement	The extent to which the benefits of a project are offset by reductions of output or employment elsewhere.
Leakage	Leakage refers to the amount of economic benefit that leaks out of the area of impact through processes such as in-commuters or in-migrant

	labour spending their wages outside the local area, or supply chain spend outside the local area. Some projects are likely to draw in a large number of construction workers from across the UK and beyond to perform specific task. These tasks will vary from highly specialist requirements for project management professionals and electrical/mechanical engineering installation to the more general requirements for civil engineering operatives. Local labour markets based on journey to work patterns are usually able to supply lower skill requirements more easily than higher level skills resulting in a need to import skills considered to be in deficit. The actual level of leakage is difficult to determine in advance of knowing detailed plans of contractors on the project. Leakage is also highly dependent upon policy measures taken on employment brokerage.
Multiplier	A multiplier quantifies the relationship between changes in direct employment impacts of a project and the final impact of a scheme once a series of indirect effects have played out. These indirect effects include the following: Supply effect known as the Indirect Multiplier – purchases made within the local area as a result of the project represent benefits to local firms, supporting employment and purchases from other firms. The scale of this effect depends on the nature of goods and services purchased and the extent to which they are available within the local market. Consumption effects known as the Induced Multiplier – Incomes paid to project staff generate some local spending. This in turn supports further employment within local firms. The strength of this effect is driven by the proportion of additional income which is spent within the study area. This is strongly linked to the local provision of services, especially retail, housing, transport and other services. In using multipliers to estimate economic impacts it is important to ensure that a consistent approach is used to avoid double counting of impacts. Similarly, consistent multipliers for projects operating in the same sectors of the economy should be used to enable comparison and consistency.

Impacts on services and infrastructure

In addition to the additionality assessment it is also important together information on the workforce profile during the different phases of the project. This would include the origin of workers, skills/occupational profile, phasing and demand in relation to labour, extent and characteristics of workers household/family moving and actual resident location during the project phases. These factors will all determine the knock on impacts on population and local social infrastructure. For each project the above factors, alongside the catchments of services (see Table 10) affected and the local context need to be considered in assessing these impacts.

Table 10: Impacts on services and infrastructure

Impact	Geographical Area of Impact	Rationale for Impact Area
Employment generation during the project phases (direct, indirect and induced impacts)	Travel to work (best fit area if required based on LSOAs)	Workers on a development will be resident in this area and as such economic and related social impacts will be most apparent in this geography
Impact on population	Travel to work area ((best fit area if required based on LSOAs)	Additional in-migrant workers representing "new" population to the area will be based in the TTWA.
Impact on early years education provision	Walking distance radius (1km)	Professional experience
Impact on primary education provision	Average travel-to-school area (2.1km)	National Travel Survey 2010
Impact on secondary education provision	Average travel-to-school area (4.7km)	National Travel Survey 2010; Department for Children Schools and Families (DfCSF) Local Authority Cross Border Matrix 2010
Impact on post-16 education provision	Local Authority	Professional experience
Impact on health provision	Local Authority	Based on reasonable drive times to facilities and local context. Health Trust area too wide for relevant analysis
Impact on housing	Dependent on context	Professional experience/consultation
Impact on tourism/visitor infrastructure	Dependent on context	Professional experience/consultation
Impact on open space	Dependent on context	Professional experience/consultation
Impact on play space provision	Dependent on context	Professional experience/consultation

3.4 Aligning EIA for Different Projects

The purpose of this section is to permit developers to align the EIA terms, definitions and significance assessments used in their own and other developments' environmental assessments ahead of carrying out cumulative impact assessment. In order to achieve this, each EIA discipline will need to use the definitions provided in the sections above to re-assess their own and other developments' EIA terms and definitions. The process for doing

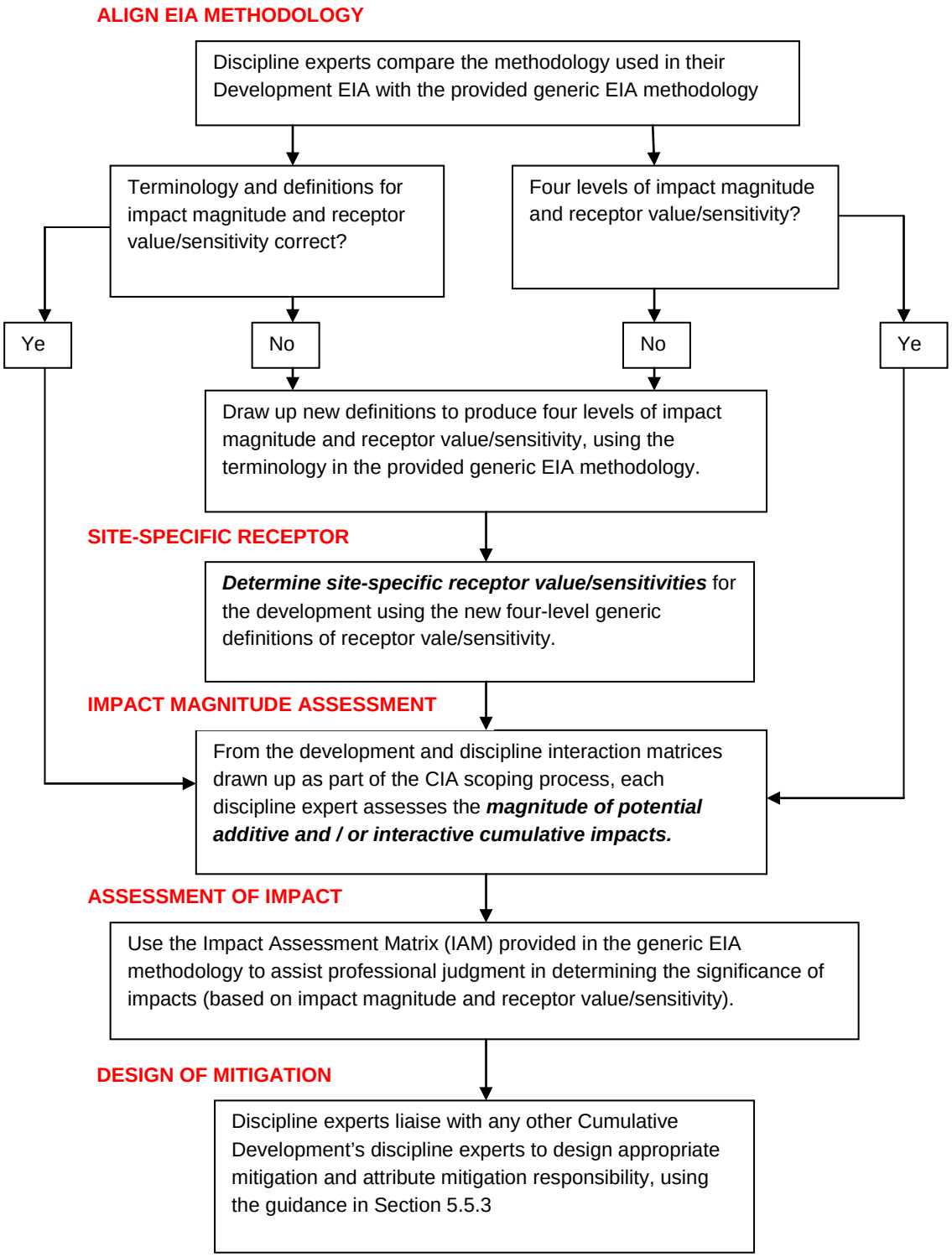
this is outlined in Figure 3.1. The flow diagram indicates that there are two main parts to the alignment process and that these activities would be carried out by each discipline expert for each cumulative development:

- aligning definitions and terminology for impact magnitude
- aligning definitions and terminology for receptor value and sensitivity

The purpose of this alignment process is to permit like-for-like comparisons of significant impacts arising from each cumulative development. Without this 'standardisation' it would be very difficult to compare and assess impacts which have been assessed in different ways, using different terminologies.

For the purposes of the IACC CIA process, a 'cumulative development' is a proposed development which has the potential to cause cumulative impacts with any other development or plan within the remit of the IACC.

Figure 3.1 Flow Diagram for Aligning EIA and Carrying out CIA Detailed Assessment



4. Overview of Cumulative Impact Assessment Requirements and Best Practice

4.1 Introduction

The EIA Regulations require that the likely cumulative impacts of the proposed development are assessed. Cumulative impacts are those that result from the combination of changes caused by the proposed development or developments together with other past, present and reasonably foreseeable future developments and plans.

4.2 Defining different cumulative Impacts

4.2.1 Additive and Interactive cumulative impacts

Guidance on the assessment of cumulative impacts provides that they can be broadly defined as being either 'Additive' or 'Interactive' (European Commission, 1999). Typically, additive impacts occur when different project activities act upon the same environmental receptor in the same way (e.g. the additive impact of noise from different sources upon local residential receptors, for example noise from piling activities may occur at the same time as transport-related noise and may affect the same receptor(s) during the construction phase). Many small impacts on one sensitive receptor could add up to a significant overall impact even if individually they are insignificant.

Interactive impacts are caused by the interactions of different types of impacts from project activities on the same receptor, even if individually these are insignificant (e.g. the interaction of noise disturbance and light pollution on bat foraging). Cumulative impacts can also be cumulative in terms of the overall temporal impact, scale of impact and/or spatial impact.

4.2.2 Different hierarchical levels of cumulative impacts

Cumulative impacts are assessed with respect to changes caused by the proposed development itself and changes caused by the proposed development together with other developments and plans. How many tiers that are relevant for a particular project's CIA will depend on whether that development has other, associated developments, such as:

- **Level 1 Site-specific (or within-development) cumulative impacts**. These types of cumulative impacts arise when a single receptor is affected by more than one impact from the development at the same time. These could be either additive or interactive impacts (see above for a definition of additive and interactive impacts).
- **Level 2 Project-wide cumulative impacts.** These types of cumulative impacts arise when a project has a main development site and a number of off-

site associated developments, such as park and ride facilities, road improvements or housing developments. They arise from the combined impacts (additive or interactive) of any component of the overall project with any other component.

- **Level 3 Wider (or between-development) cumulative impacts.** These types of cumulative impacts are the combined impacts (additive or interactive) that may occur between any development and any other developments.

For some topics, notably transport, traffic related air quality and noise, and socio-economics, the assessment of project-wide together with wider cumulative impacts may require specific CIA modelling and impact predictive analysis.

It should be noted that cumulative impacts may also be considered a material planning consideration where a particular development is not considered to be EIA development in its own right. In these circumstances it may be necessary to perform cumulative assessment to inform the decision making process.

4.2.3 Best Practice Guidance on CIA

Published guidance on CIA has been provided either in relation to cumulative impacts on a single topic basis, i.e. landscape or ecology separately, or in connection with particular types of developments in combination such as wind farms. This section is intended to outline what IACC considers to be the existing best practice guidance on CIA for specific disciplines and types of developments.

4.2.4 Discipline-specific guidance on CIA

(a) Landscape and Visual Impact Assessment

The Landscape Institute updated their EIA guidance in April 2013 and this includes guidance on CIA ('Guidelines for Landscape and Visual Impact Assessment', 3rd Edition (April 2013), produced by the Landscape Institute and the Institute of Environmental Management and Assessment (IEMA)). This guidance is to be known as 'GLVIA 3' and defines cumulative landscape and visual effects as:

"*Additional changes to landscape and visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it) or actions that have occurred in the past, present or are likely to occur in the foreseeable future*".

Technical Advice Note (TAN) 8: Planning for Renewable Energy (2005), states that: "*It is important to recognise that cumulative effects consist of both those upon visual amenity as well as the effects on the landscape*". TAN 8 recommends that landscape CIA follows SNH (2005) (now update as SNH 2012) and that visibility analysis is carried out using GIS, as is

recommended in this IACC Guidance. TAN 8 also states that "*The degree of cumulative impact also gives rise to the notion of thresholds, beyond which impacts may not be acceptable*".

The idea of defining thresholds beyond which further impacts would not be acceptable is an important one for all CIA disciplines and can be linked to the concept of 'carrying capacity' which is discussed in more detail in Section 5.

The GLVIA3 provides guidance on the assessment of both impacts on landscape and visual aesthetics and advises: "*The emphasis should be on cumulative effects that result in*:

- *change in and/or partial or complete loss of elements, features or aesthetic or perceptual aspects that contribute to the character and quality of the landscape;*
- *addition of new elements or features that will influence the character and quality of the landscape and alter perceptions*".

In LVIA cumulative impact assessment, it is particularly important to use the methodology provided in this IACC Guidance document to consider and identify cumulative impacts (additive and interactive) which may not have been significant under an EIA for a single development but which become significant impacts when considered cumulatively with other developments.

The GLVIA3 gives advice on how to define the study area for CIA and this might be helpful for defining ZOIs for landscape and visual impacts at the scoping stage of the IACC CIA methodology. One approach is to use the Zone of Theoretical Visibility (ZTV) defined in assessing the visual effects of the scheme and the areas of overlap with the ZTVs of the other developments to be considered. This is likely to be particularly useful when the development in question may be seen in conjunction with other developments in the vicinity, even if the other projects are not in the same landscape character area. Chapter 8 of the GLVIA3 indicates that *cumulative landscape effects* are likely to include:

- *effects* on the ***fabric of the landscape*** as a result of changes in individual elements or features of the landscape and /or the introduction of new elements or features;
- *effects* on the ***aesthetic attributes of the landscape***, for example its scale, sense of enclosure, diversity, pattern and colour, and/or on its perceptual or experiential attributes, such as a sense of naturalness, or remoteness or tranquillity; and
- *effects* on the ***overall character of the landscape*** as a result of changes in fabric or in aesthetic or perceptual attributes, leading to modification of key characteristics and possible creation of new landscape character types/sub types or character areas/sub-areas.

Cumulative visual effects are defined in the GLVIA3 as "*the additional effects on views of the landscape enjoyed by people, and on their visual amenity, which result from adding the effects of the project being assessed to the effects of the other projects on the baseline conditions*". A cumulative impact could result from changes in the content and character of the views experienced in particular places due to introduction of new elements or removal of or damage to existing ones.

The initial study area for VIA may include all the overlapping ZTVs of all the relevant cumulative developments. Using this approach is helpful in assessing wind farms, which can be inter-visible over considerable distances and so the study area for cumulative impact assessment can be extensive. This may not necessarily be the case for other types of developments. However the distance between viewpoints and the relevant developments has a clear effect in determining the significance of any cumulative impact.

Combining the assessments of the importance and sensitivity of the receptors and the magnitude and duration of the additional visual effects allows their significance to be judged. The GLVIA3 indicates that higher levels of cumulative impact significance are likely to arise from:

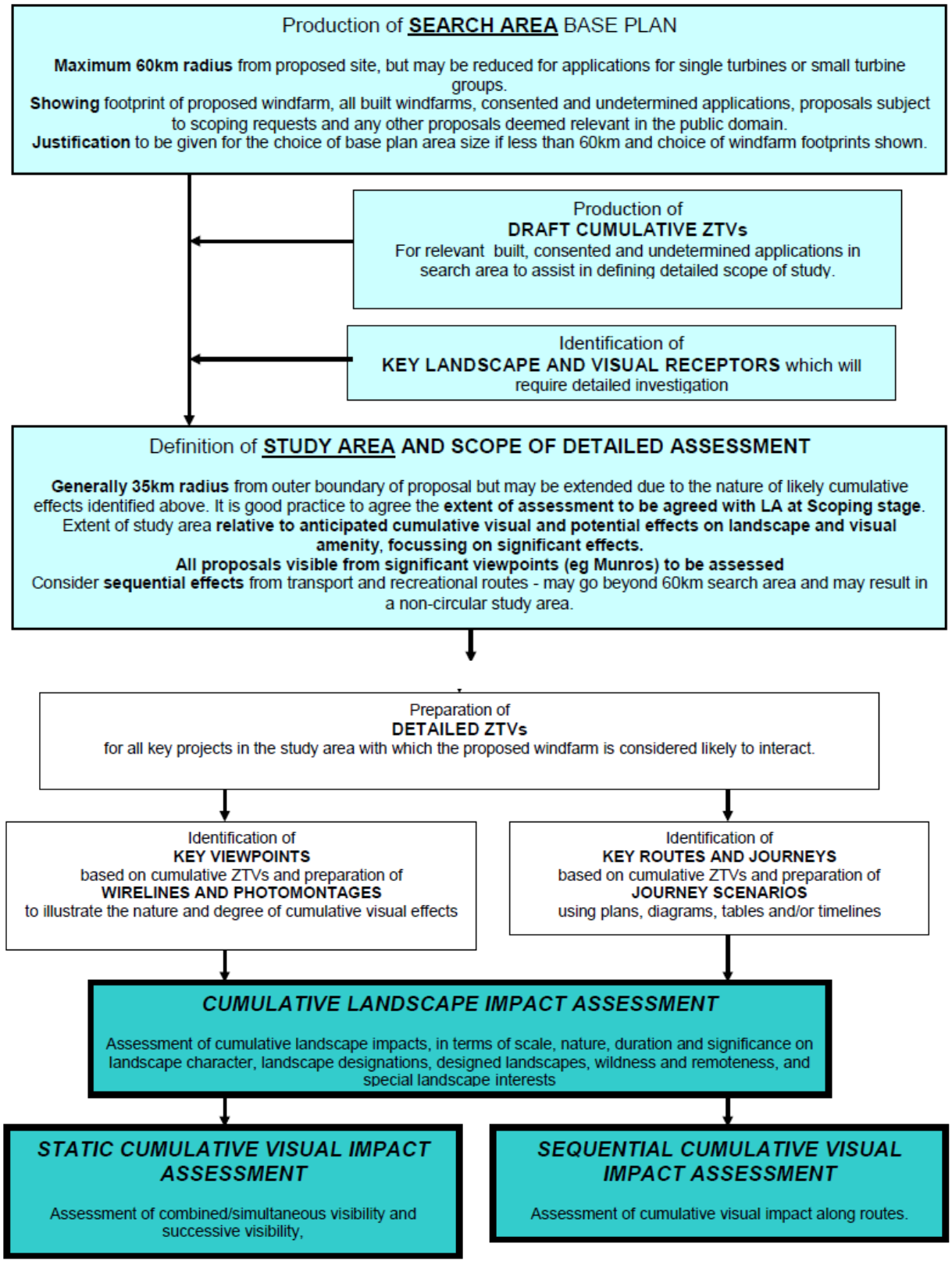
- "*Developments that are in close proximity to the main project and are clearly visible together in views from the selected viewpoints*;
- *Developments that are highly inter-visible, with overlapping ZTVs: even though the individual developments may be at some distance from the main project and from individual viewpoints, and viewed individually are not particularly significant, the overall cumulative effect on a viewer at a particular viewpoint may be more significant*".

Entec (2008), discussing the inter-visibility of wind farms in the landscape, noted that: "Cumulative visual effects....are concerned with changes in the character of available views and the changes in the visual amenity perceived by receptors as a result of two or more on-shore wind energy developments". Entec (ibid.) indicated that there could be three kinds of cumulative impact on visual amenity (and these could relate to cumulative development other than wind farms):

- **Simultaneously** - where a number of developments may be viewed from a single fixed viewpoint and simultaneously, within the viewer's field of view without moving;
- **Successively** - where a number of developments may be viewed from a single viewpoint and successively by turning around at a viewpoint; and
- **Sequentially** - where a number of developments may be viewed sequentially or repeatedly from a range of locations when travelling along a route.

SNH (2012) provides the following flow diagram to illustrate their CIA guidance for CLVIA.

Figure 1. Flow chart summarising CLVIA for windfarms



(b) Noise

The framework for the assessment of windfarm noise in the UK is that found in ETSU-R-97 The Assessment and Rating of Noise from Wind Farms (DTI, 1996).

ETSU-R-97 details the procedure to be followed to derive noise limits for a particular receptor. Briefly this consists of measuring the background noise levels at a receptor over a period of several weeks and correlating these with wind speed. Average background noise levels are then determined for a range of wind speeds and noise limits set relative to these. Noise predictions are undertaken of the operational noise from the turbines, and fed back to the windfarm designers to ensure that the site complies with noise limits.

However, deficiencies and omissions in this document led DECC (Department for Energy and Climate Change) to ask the Institute of Acoustics (IOA) to produce a document on good practice guidance in the application of ETSU-R-97 for wind turbine noise assessment, including CIA. The resultant IOA (2013) document raises several key issues, including the question of what is considered to be the baseline when a wind farm exists in proximity to a new proposed wind farm or a wind farm extension.

ETSU-R-97 states that: "…absolute noise limits and margins above background should relate to the cumulative effect of all wind turbines in the area which contribute to the noise received at the properties in question…" and "the….absolute noise limits and margins above background should relate to the cumulative effect of all wind turbines in the area contributing to the noise received at the properties in question. It is clearly unreasonable to suggest that, because a wind farm has been constructed in the vicinity in the past which resulted in increased noise levels at some properties, the residents of those properties are now able to tolerate higher noise levels still. The existing wind farm should not be considered as part of the prevailing background noise."

IOA (2013) indicates that during scoping of a new wind farm development consideration should be given to cumulative noise impacts from any other wind farms in the locality. If the proposed wind farm produces noise levels within 10 dB of any existing wind farm/s at the same receptor location, then a cumulative noise impact assessment is necessary. Equally, in cases where noise from the proposed wind farm is predicted to be 10 dB greater than that from the existing wind farm (but compliant with ETSU-R-97 in its own right), then a cumulative noise impact assessment would not be necessary.

The IOA (*2013) guidance provides discussion of the assessment of a range of hypothetical wind farm CIA noise scenarios. These examples could also assist in assessing cumulative impacts with respect to noise for a range of development types. Advice is also provided on the wording of Planning Conditions in relation to cumulative noise.

(c) Transport

The Institute of Environmental Assessment (IEA)2 (1993) states that a traffic assessment is required '…for the assessment of the environmental impact of road traffic associated with major new developments, irrespective of whether the sites are to be subject to formal Environmental Statements or not.' It also provides guidelines that traffic flow increases below 10% are generally considered to be not significant and are assumed to result in no discernible environmental effects, given that daily variations may fluctuate by this amount.

However the IEA guidance acknowledges that: 'the cumulative effect of a number of developments attracting less than 10% of additional traffic may need to be assessed at a broader strategic or policy level.' IEA also note that the cumulative impact of individual projects may create a more significant environmental effect on a wider area and should be assessed as part of a wider appraisal than that which is set out in the IEMA guidelines. All of this indicates that care must be taken and a possible wider consultation required with relevant stakeholders at a strategic level, when defining ZOIs for transport and traffic cumulative impact assessment.

General guidance on transport assessments is provided in the Department for Communities and Local Government (DCLG) and the Department for Transport (DfT) (2007), which applies to England only and the Scottish Executive (2002), which applies in Scotland only. Both documents in the main assist in defining at what point transportation assessment might be necessary and the likely scope of such assessment, including the potential scope of cumulative assessment and where it might be considered necessary.

The main conclusions are that IEMA guidelines state that consideration of cumulative effects are most appropriately undertaken at the policy level. The DCLG/DfT and Scottish Executive guidance both identify the need for and scope of cumulative assessment of committed developments within Transport Assessments, but the emphasis is more on consideration of an accumulating baseline rather than potential cumulative impacts for peaks of construction movements.

(d) Ecology

The standard guidance for ecological impact assessment (EcIA) is provided by the Chartered Institute of Ecology and Environmental Management in IEEM (2006) (on terrestrial and freshwater environments) and IEEM (2010) (on marine and coastal environments). These documents primarily provide a toolkit of EIA assessment methods, and indicate that the methods used for EIA are also appropriate for CIA. IEEM (2006) emphasizes that the key to

[2] Now the Institute of Environmental Management & Assessment (IEMA)

successful CIA is to accurately define the baseline. Accordingly, IEEM (2006) provides an example which illustrates how to predict the future baseline conditions for CIA.

SNH (2006), in their guidance: "Assessing the significance of impacts from onshore windfarms on birds outwith designated areas" acknowledges the difficulty in assessing cumulative ornithology impacts because of the lack of appropriate baseline data, stating at paragraph 39: 'An ES should include cumulative assessments where there is a possibility of significant cumulative effect. Currently, however, it is recognised that it is unrealistic to insist on a cumulative assessment if the relevant information is not reasonably available. In such cases, the statutory nature conservation organization (in the case of Anglesey, Natural Resources Wales (NRW)) should be consulted for advice on ornithological CIA matters.

In 2005, English Nature (now Natural England) produced research report 626: "*Going, going, gone? The cumulative impact of land development on biodiversity in England*" which provides an introduction to, and general information on, cumulative impacts of developments on biodiversity. English Nature then commissioned the production of a practical toolkit for identifying and evaluating cumulative impacts of developments and plans on biodiversity (LUC, 2006). This report presents practical guidance on how to carry out an assessment of the likely cumulative effects on biodiversity of spatial plans and development projects as an integral part of an overall environmental assessment. The concepts discussed in this document have wide applicability and are a useful source of reference for the IACC cumulative impact assessment approach.

Cumulative effects on biodiversity often have a significant effect over time. An initial impact may not be assessed as being significant and it is only when a number of such impacts come together that the full extent and possible significance of a cumulative impact is realised. Cumulative impacts often reduce ecosystem resilience over time. The resilience of an ecosystem provides the capacity to absorb shocks whilst maintaining function…this adaptive capacity in ecological systems is related to genetic diversity, biological diversity and the heterogeneity of landscape mosaics. As an ecosystem's biodiversity is reduced so is its resilience. If these effects continue to mount up the ecosystem may pass a critical threshold resulting in the loss of the ecosystem and its characteristic biodiversity. Considering thresholds is thus central to assessing cumulative impacts and their effect on biodiversity. The concepts of 'carrying capacity' and thresholds are useful in all CIA disciplines and this is discussed further in Section 5.

Key messages from the LUC (2006) study were:

- Consideration of cumulative impacts should be an integral part of the EIA conducted in preparing spatial plans and in designing, constructing and operating developments and should be taken into account from the very earliest stage in these processes.

- An ecosystem-based approach, ecosystem resilience, environmental carrying capacity and environmental limits, should be included when considering cumulative impacts of development.

- The precautionary principle should be applied where there is uncertainty about cumulative impacts.

- The assessment of cumulative impacts should consider both positive and adverse effects, and requires a long-term view. Global, national, regional and local concerns all need to be taken into account.

(d) Socio-economics

As noted previously there is no standard approach to socio-economic impact assessment or cumulative impact assessment within EIA guidance. The most commonly used approach to assessing socio-economic cumulative impacts within EIA is set out below.

- Other developments are identified within the 'vicinity' of the proposed development. These developments are generally selected at a project wide level. In other words the same developments are assessed for all of the disciplines. The other developments identified will relate to the spatial scope of the specific development in question. In a socio-economic context the most relevant spatial scope is that of the travel to work area as this is the most relevant spatial area for employment impacts which ultimately drive the other elements of the socio-economic assessment.

- In general terms, socio-economic cumulative assessments only take into account employment impacts. For each of the identified cumulative developments employment is estimated using various metrics including employment density estimations/floorspaces by use and construction cost divided by construction output per employee.

- This provides the total number of jobs created within the assessment area. An assessment based on professional judgement is then made as to the significance of this in relation to the travel to work area and a smaller local area. In other words, how many more jobs are being created above and beyond the development in question and is this a 'significant' number in terms of the size of the labour market within the travel to work area.

- In the instances where other socio-economic issues, beyond employment, are taken into account a light touch qualitative assessment is used. For example, the assessment may state that development x is providing xm^2 of additional open space, and development y is constructing x new residential properties and as such the cumulative impacts of the developments would change the existing carrying capacity of local social infrastructure.

4.2.5 Development-specific guidance on CIA

(a) Onshore and offshore Windfarms

There has been particular emphasis on the cumulative effects of windfarm development because of the intervisibility of the turbines. In Scotland considerable effort has been devoted to addressing definitions and interpretations of cumulative landscape and visual effects specifically in relation to windfarms in guidance that has been widely used (SNH, 2012). This guidance provides useful discussion and examples relating of visual impacts of onshore wind farms that can be used by many different disciplines and for different kinds of developments. SNH (2012) provide a number of useful examples, illustrated below.

4.2.6 Examples of cumulative impacts

(a) Landscape and Visual Impact Assessment

The following example is taken from SNH (2012)

Imagine two separate developments, A and B. The cumulative impact of both developments taken together need not simply be the sum of the impact of A plus the impact of B; it may be more, or less. This is best demonstrated using some examples as shown below:
An isolated house A in the countryside has a visual impact, standing out in its natural setting. Another isolated house B has a similar visual impact, taken alone. However if the two houses are sited close together, the visual impact of the two together may be only a little greater than for either house A or B taken alone, as they will appear as a single cluster.
Windfarm A sited on a ridge on one side of a valley is highly visible but acceptable, providing a single visual focus on an otherwise unremarkable skyline. A second windfarm B on a ridge on the other side of the valley would have a similar effect, if it were on its own. However, the effect of having two windfarms sited on either side of the valley may be to make the observer feel surrounded by development. The combined effect of both may be much greater than the sum of the two individual effects.
Windfarm A gives rise to a low level of bird mortality, which lies well within the capacity of that bird population for regeneration and hence has little effect on the overall bird population level. The same would apply to a second windfarm B, taken on its own. However, the level of bird mortality caused by windfarms A and B taken together would exceed the capacity of the population for regeneration, in which case the population would go into decline. Whereas the impact of A and B, each on their own, was not of concern, the impact of A + B is to cause population decrease which is of concern.

The SNH (2012) document provides an outline methodology for cumulative LVIA of windfarms that could equally be applied to other types of developments, suggesting topics that might be included as follows:

- Cumulative landscape effects on designated landscapes;
- Cumulative landscape effects on designed landscape interests;
- Cumulative landscape effects on landscape character;
- Cumulative landscape effects on sense of remoteness or wildness;
- Cumulative visual effects on sense of scale and distance, particularly in instances where noticeably smaller or larger turbines are used in different wind farms;
- Cumulative visual effects on existing focal points in the landscape;
- Cumulative visual effects on the skyline and in particular the proportion of developed to non-developed skyline; and
- Cumulative effects on other special landscape interests such as landscape setting of settlements and or cultural heritage.

TAN 8 (2005) provides useful discussion on assessing the cumulative impacts of wind farms in relation to the seven Strategic Search Areas (SSAs) in Wales (although none of these relate to Anglesey.

TAN 8 paragraph 8.2 defines cumulative impacts as "*those which occur, or may occur, as a result of more than one wind farm project being constructed. The degree of cumulative impact is a product of the number of and distance between individual wind farms, the inter-relationship between their Sub-areas of Visual Influence (ZVI), the overall character of the landscape and its sensitivity to wind farms, and the siting and design of the wind farms themselves. It is important to recognise that cumulative effects consist of both those upon visual amenity as well as effects on the landscape. The degree of cumulative impact also gives rise to the notion of thresholds, beyond which impacts may not be acceptable*".

Paragraph 8.2 goes on to state: "*In order to justify a threshold based on natural heritage factors, there needs to be clarity over natural heritage objectives. Without such clarity, there is little value in seeking a cumulative impact assessment in the first place. Thus, for example, in relation to cumulative landscape impacts, one needs to be clear whether the landscape objective in the area is:*

- *to maintain the integrity and quality of the landscape (as may be appropriate within a designated landscape);*
- *to maintain the landscape character; or*

- *to accept landscape change".*

There is an implicit objective in TAN 8 to maintain the integrity and quality of the landscape within the National Parks/AONBs of Wales i.e. no change in landscape character from wind turbine development. In addition, in the rest of Wales outside SSAs, the implicit objective is to maintain the landscape character i.e. no significant change in landscape character from wind turbine development. Within (and immediately adjacent) to the SSAs, the implicit objective is to accept landscape change i.e. a significant change in landscape character from wind turbine development.

TAN 8 defines the carrying capacity for wind energy within SSAs (e.g. para 2.5 and Table 1) although none of these SSAs are in or adjacent to Anglesey. Because (para 2.7):

"*Large areas of Wales were excluded from consideration as SSAs by features that militate against larger wind power developments. In particular large wind power proposals within a National Park or designated Area of Outstanding Natural Beauty would be contrary to well established planning policy and thus SSAs have not been considered for these areas. Similarly, the highest level of nature conservation and heritage designations, and thus Natura 2000 sites, the core area of the Dyfi Biosphere Reserve, and the World Heritage Site at Blaenafon were all excluded from consideration as SSAs".*

4.2.7 Relationship between CIA and a Habitats Directive Assessment

The Natura 2000 Network is made up of Special Areas of Conservation (SAC) which host rare, endangered and vulnerable habitats and species of European importance, Special Protection Areas (SPA) which support significant wild birds and their habitats and European Offshore Marine Sites (EOMS). These protected sites are designated under the Habitats or Birds Directives3. In Wales and the UK, Ramsar Sites (identified under the Ramsar Convention) are also afforded the same level of protection as fully designated Natura 2000 sites. Together, these international sites are referred to as European Sites.

A development may raise the prospect of there being potentially significant impacts, including cumulative impacts, on the interest features of a European Site. In such circumstances it may be necessary for the relevant competent authority[4], to undertake a Habitats Regulations Assessment (HRA), also known as an Appropriate Assessment, which necessitates a series of tests as set out in the Regulations to establish in sequence whether:

[3] The Habitats and Birds Directives are brought into effect in Wales (and England) by the Conservation of Habitats and Species Regulations 2010 (as amended) which also transposes the Directive's requirement to undertake assessment for both projects and plans.

[4] The local planning authority (IACC) for TCPA applications, Secretary of State for DCO.

- The development would affect the integrity of the features of qualifying interest in the designated area;
- There are any alternatives to the development;
- There are any Imperative Reasons of Overriding Interest which suggest the development should
- proceed; and
- There are any compensatory measures appropriate to facilitate the development.

The Appropriate Assessment process must be evidentially based. There is a need to consider cumulative impacts (also known in the context of a Habitats Regulations Assessment as 'in combination' effects) under the terms of the Regulations, throughout the process, but particularly in respect of the first point above.

A plan or development project would not be consented unless it can be determined that it would not have an adverse effect on the integrity of any European Sites or, where there are no alternative solutions, there are Imperative Reasons of Overriding Public Interest and compensatory measures are secured to ensure the coherence of the Natura 2000 network. Any plan or development project which has the potential to affect a European Site, no matter how far away from that site, should be considered.

It can be seen from the definitions above that there is a clear relationship between CIA and HRA, however their terminologies and purposes are different. The main role that CIA will play in HRA is to assess the potential for any cumulative impact to affect any designation feature of a European Site and, if so, this information would feed into a detailed Appropriate Assessment. The methodology for assessing cumulative impacts on ecological receptors will be exactly the same in CIA and in the HRA.

5. IACC CIA Methodology

5.1 Introduction

This section provides a description of the methodology that should be adopted for CIA of developments that are of material interest to IACC. In establishing this methodology, regard has been paid both to IEMA's (2004) Guidelines for Environmental Impact Assessment and the EC (1999) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. Although this document does not deal directly with Health and Welsh Language impact assessments, the generic CIA approach outlined in this section could also be adopted for carrying out assessments of cumulative impacts on Health and Welsh Language.

It is proposed that developers should carry out CIA in four stages:

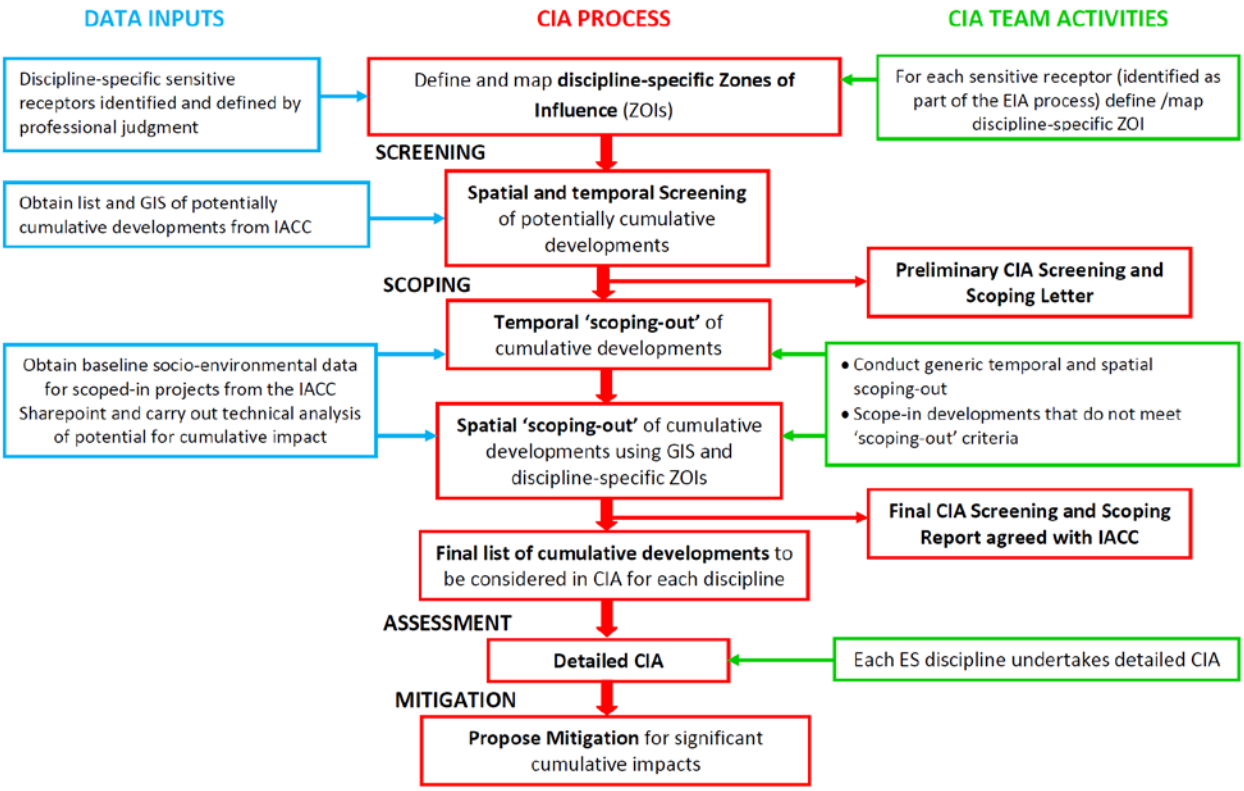
- Screening
- Scoping
- Assessment
- Mitigation

The processes of screening and scoping are key phases of a cumulative impact assessment. The definitions of screening and scoping in CIA are very similar to those of EIA, as follows:

- **Screening** – relates to the process of defining which projects should be included in the CIA. It involves consulting with the IACC to determine which developments and plans are to be included in the assessment. ***Screening relates to identifying potentially cumulative developments and plans.***
- **Scoping** – relates to the process of defining whether there is scope for a cumulative impact to occur. In this CIA, scoping is a two-stage approach, assessing the potential for there to be a temporal or spatial interaction between developments which could lead to a cumulative impact. ***Scoping relates to identifying potentially cumulative impacts from cumulative developments and plans.***

An overview of the CIA process is set out below in Figure 5.1 and details of the stages followed are provided below.

Figure 5.1. IACC Cumulative Impact Assessment Process



5.2 Role of IACC in the CIA process

The IACC will hold and administer two very important resources that developers carrying out CIA will need to access, and hence consultation with the IACC at the very earliest opportunity of planning a development is required. The two key resources held by IACC will be:

- **IACC GIS:** An evolving and regularly updated Geographical Information System (GIS) which will hold geographical and other details of developments which are in the planning process or for which a planning application is anticipated, along with details of other developments which are sufficiently developed and detailed for there to be adequate baseline data and enveloping of implementation timescales.

- **IACC Sharepoint:** A confidential sharepoint of development details which will hold folders containing relevant design, layout, timescale and baseline data on each development considered to be a 'cumulative' development by IACC. It will also be used to hold baseline data sets that have been confirmed and verified as fit for purpose by relevant stakeholders (e.g. NRW) and the Welsh Assembly Government (WAG)

Once IACC determines that a forthcoming development may potentially be a 'cumulative development' the developer will be required by IACC to submit details of the development,

together with baseline environmental and socio-economic data, which will be updated as the data becomes available. Only developments that have been invited by IACC to submit their details in this way will be deemed a 'cumulative development' and will be permitted a login and password to the confidential Sharepoint of data that they will need to access in order to carry out their CIA.

The following information is required, as a minimum, for each potentially cumulative development, so that it can be included in the CIA:

- the outline design/layout of the development, including the potential planning application boundary;
- details of any proposed associated developments, including their potential planning application boundary;
- the timing of development including the duration of the construction and operational stages with phasing schedule given in as much detail as possible; and
- the likely environmental impacts that will occur as a result of the development, such as the traffic which will be generated.

As environmental survey and assessments proceed as part of the development's EIA or in the case of smaller developments to enable more limited supporting environmental/socio-economic information to be presented, the developer will be required to submit the results of baseline surveys for inclusion onto the IACC Sharepoint. This will allow regular updates of both the IACC's GIS and Sharepoint, so that all information held in these resources will be up to date. Without regularly updated GIS and Sharepoint information it would be impossible to make an accurate assessment of the likely cumulative impacts on environmental receptors.

5.3 Screening CIA

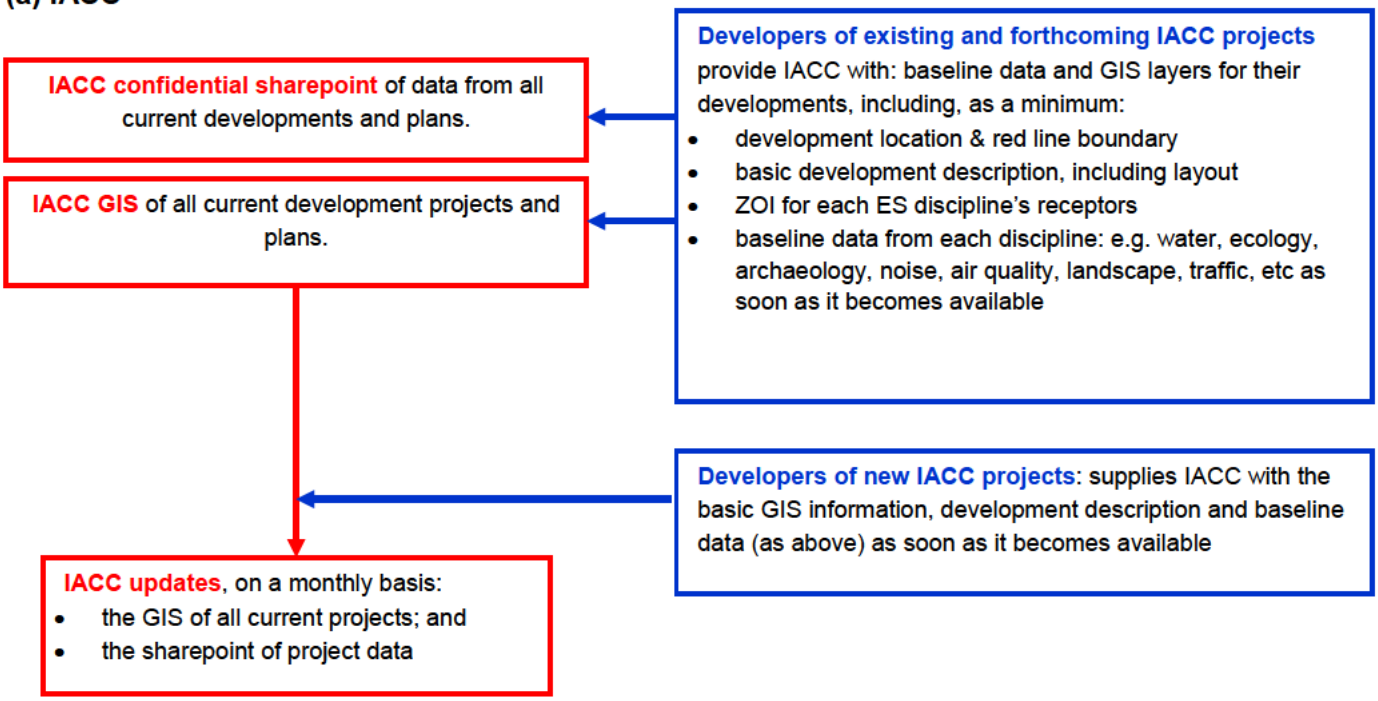
The screening phase of CIA determines which developments and plans should be included in a CIA and thus sets the baseline for the CIA. This section describes the requirements to consider developments and plans that may have temporal and/or spatial overlap with the project being brought forward by the developer.

The CIA screening process to be followed is illustrated in Figure 5.2, showing the roles to be played by both the IACC and by developers.

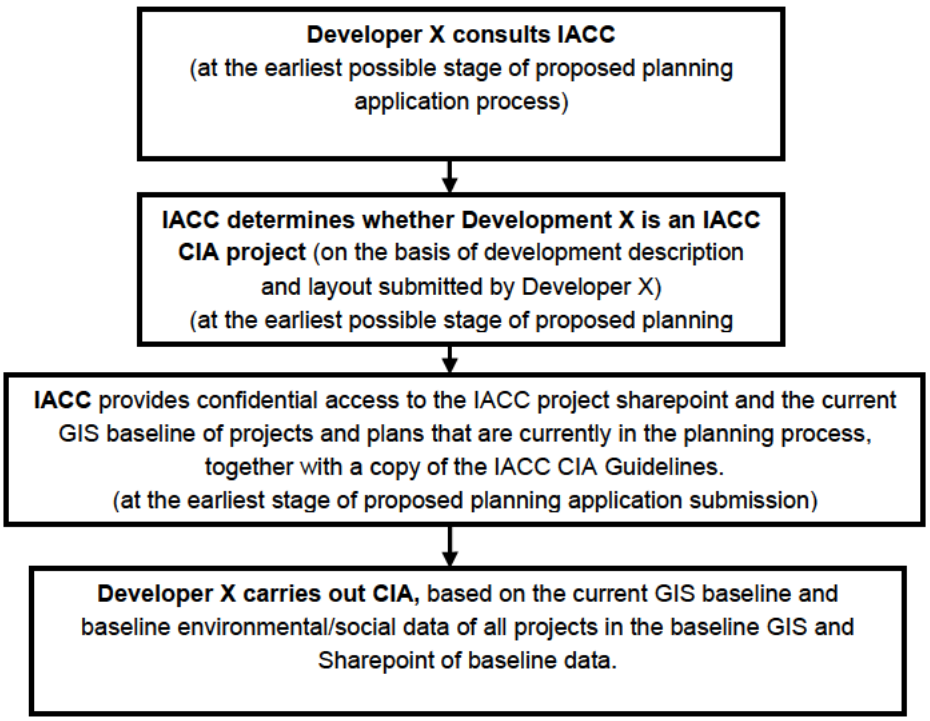
Figure 5.2 CIA Flow Diagram of CIA Screening Process

(NB: an 'IACC Project' is defined as a development or plan identified by IACC as being relevant for inclusion in forthcoming CIA)

(a) IACC



(b) Developers



5.3.1 Screening of Developments

The approach to be taken in undertaking this CIA is to consider only those development proposals and plans which are 'likely' to proceed and for which there is adequate available information to contribute to a cumulative impact assessment.

Advice provided by Department of Communities and Local Government (DCLG) (2006) in the consultation paper: "Environmental Impact Assessment: A Guide to Good Procedures" which states:

"In most cases, detailed consideration of the combined effects of the development proposed together with other developments will be limited to those others that are already begun or constructed or those that have not been commenced but have a valid planning permission.

Often, future developments in the vicinity of a project site will be included in the baseline scenario as 'committed development'. But in the context of EIA the term 'committed development' conventionally refers to development for which consent has been granted."

Initial screening of developments (onshore or offshore of Anglesey and in the wider North Wales Region) for inclusion in CIA should consider the following:

- development under construction;
- development permitted application(s), but not yet implemented;
- submitted application(s) not yet determined and, if permitted, would affect the proposed development; and
- development identified by IACC as being sufficiently progressed to be 'likely' to proceed and for which there is adequate available information to contribute to a cumulative impact assessment.

Early consultation with the IACC will be required as part of the CIA screening process, to ensure that all relevant, potentially cumulative developments are included. Consultation with the IACC will ensure that each developer of a potential cumulative development can gain access to the IACC GIS and the IACC Sharepoint of spatial, development and baseline data.

As at the time of writing of this methodology document (September 2013) IACC has identified a number of major development projects that may have temporal overlap during the next ten years (see Table 11 below) but developers must be aware that there may also be other projects of a more limited scale that could be brought forward during this time period and which could lead to cumulative impacts albeit of a more limited magnitude.

Table 11: Major development projects

Project	Developer	Location	Comments
Nuclear New Build	Horizon Nuclear Power	Wylfa, North West Anglesey	Early stage – no formal application/DCO
Rhiannon Offshore Wind Farm	Centrica/DONG Energy	19km off North Coast of Anglesey	Scoping report for onshore elements recently submitted (May 2013) planning application for on and offshore elements estimated for submission 2014
North Wales Connection	National Grid	Wylfa to Pentir (Gwynedd)	DCO and ES yet to be submitted – options process and consultation phase1 complete – technical studies on-going – estimated construction start 2016
Skerries Tidal Stream Array	Marine Current Turbines	Carmel Head, North West Anglesey	Planning and consenting stage for offshore elements of project complete and consent granted – onshore works application estimated summer 2013. Offshore construction planned for 2014
Wylfa Decommissioning	Magnox	Wylfa, North West Anglesey	Consent granted 2009 revised ES produced 2013 as original consent would lapse following decision and consent for it to extend generation past 2014
Penrhos Leisure Village	Land & Lakes	Penrhos, Holyhead	Outline application submitted 2013
Biomass Power Plant & Eco Park	Lateral Power	Anglesey Aluminium, Holyhead	Original ES submitted 2009 awaiting secondary legislation 9Growth and Infrastructure Bill) variation on original section 36 consent – construction phase delayed
Biomass Power plant	Ecopellets	Adjacent to Peboc site, Llangefni	Permission refused, currently at appeal
Amlwch LNG plant	Amwlch LNG (formerly Cantaxx LNG)	Octel Ste, Amlwch	Application submitted to renew previous consent
Waterfront Development	Stena Line & Conygar Investment Company	Newry Beach, Holyhead	Permission granted by IACC application
Parc Cybi – Mixed Use Development	Conygar Investment Company	Parc Cybi, Holyhead	Planning consent for 110k square foot of distribution and 30k sq ft office – planning application submitted for truck stop
Menai Science Park	Bangor University	To be confirmed	Early stage project no specific details on proposals

Source: URS/IACC Enterprise Island: a catalyst for economic & social change, July 2013

Developers will use available information on potentially cumulative developments and projects to carry out both temporal and spatial screening (i.e. are there sufficient temporal or spatial overlaps with the proposed development for it to be included in the CIA?). At this stage in the CIA process, developments should be screened into the assessment if there is

any reasonable possibility of either a temporal or spatial overlap. Detailed spatial and temporal assessment will take place at the scoping stage.

5.3.2 Cut off Times for Development Inclusion in CIA

Since CIA is normally one of the last activities to be undertaken, and typically once the EIA has been completed, a decision must be taken on when to draw a line under which forthcoming developments are taken into account in the CIA. Since undertaking the CIA and associated modelling to predict impacts (e.g. associated with transport and air quality) can take a significant amount of time, it is proposed that all developments that are reasonably foreseeable or are already within the planning process four months before intended submission date of the developer's planning application are included in the CIA.

5.3.3 Screening of Plans and Policies

With respect to plans and policies, this is often a point of contention for CIA delivery as their generic nature makes it difficult for the developer to align their assessments in a tangible and meaningful way. However, Supplementary Planning Guidance (such as the emerging Wylfa NNB SPG) and the draft Joint Local Development Plan (JLDP) are of particular relevance and should be taken into consideration as far as reasonably practicable.

Gwynedd Council and the Isle of Anglesey County Council have set up a Joint Planning Policy Unit (JPPU) which is responsible for producing the JLDP for both local planning authority areas. The purpose of the JLDP is to identify land to meet Anglesey's development needs to the year 2026. It is due for adoption in May 2016[5] and will identify potential sites for a range of land uses including housing, employment and other uses such as for community use and recreation and also to identify important sites that need protecting for their special landscape, open space or conservation value, including the new, locally designated 'Special Seascape Sites'. The JPPU has produced a Candidate Site Register of all potential development sites and a Site Allocation Document is due to be produced in May-June 2014. The Site Allocation Document will indicate the sites which have best potential in policy terms for development.

It should also be noted that it is the Strategic Environmental Assessment (SEA) process that should be considering, as a whole, proposals that exist in plans and programmes. The Environmental Assessment of Plans and Programmes Regulations (2004) (also known as the Strategic Environmental Assessment (SEA) Regulations) apply to a range of plans and programmes in the UK that include, for example, local authority Local Development Frameworks (LDFs) and in the case of Anglesey specifically the JLDP. SEA, as well as being the process from which the impact a plan or programme has on the environment is

[5] JLDP timetable at: http://www.gwynedd.gov.uk/upload/public/attachments/1192/Revised_Timetable.pdf.

assessed, shapes the actual plan or programme-making process since proposals can be changed to ensure the best outcome for the environment. With all this considered, SEA is a process that is well placed to consider the cumulative impacts of proposals within plans or programmes as a whole. Indeed, the SEA Regulations do themselves specifically require that cumulative impacts should be considered when evaluating the likely significant impacts of a plan or programme. Although this document does not deal directly with Health and Welsh Language impact assessments, the proposed generic CIA methodology outlined in this document would also be appropriate for SEA assessment of these subjects.

5.3.4 Documenting and Reaching Consensus on CIA Screening

It will be the developer's responsibility to provide IACC with a Preliminary CIA Screening and Scoping Letter as early as possible in the CIA process, for IACC to confirm that the proposed overarching content of the CIA is appropriate. Since this letter will be submitted ahead of the main CIA scoping effort, it is accepted that the degree of detail developers can include about the scope of the CIA will not be exhaustive. However, screening will be reported and the cumulative developments that will be included listed. The initial phase of scoping should also be completed. This initial phase of scoping will involve an understanding of the time schedules of cumulative developments so that developments whose times schedule has no overlap with the proposed development, can be screened out.

It is anticipated that the Preliminary CIA Screening and Scoping Letter will be no more than 4-5 pages long. It will summarise the screened-in cumulative developments that will be considered in the CIA. It will provide a preliminary assessment of scoping, indicating for which disciplines there could be potentially cumulative impacts and, based on their discipline experts' knowledge of the Anglesey socio-economic and environmental baseline and the results of their developments' EIA (which may be preliminary at the time), an indication of potentially significant cumulative impacts.

It will be IACC's responsibility to respond to each Preliminary CIA Screening and Scoping Report within 14 days submission.

5.4 Scoping CIA

This section sets out a methodology for the scoping of impacts to be considered in the CIA. The two relevant dimensions of CIA to be considered at this stage are:

- temporal overlap; and
- spatial overlap.

The purpose of the scoping process is to allow the CIA to focus on only those developments where **potentially** cumulative impacts with the proposed development are considered 'possible'. This process is indicated in Figure 5.1 as temporal and spatial scoping-out of developments whose potential impacts have no possibility of an interaction.

5.4.1 Methodology for assessing temporal overlap

Establishing criteria for determining temporal overlaps between the potential impacts of developments, plans and projects will require the mutual sharing of timelines between the project promoters with respect to the principal phases of development. Sufficient detail will be required of each development phase to ensure that key elements of, for example, the construction phase, are identified with respect to issues such as the following:

- construction commencement date;
- forecast construction end date and operational start date;
- occurrence and duration of key project activities, such as delivery of key elements of infrastructure and materials;
- temporal changes in labour force numbers; and
- temporal changes in forecast traffic routes and flows.

Since the evolution of a development proposal towards planning application, the actual granting of planning consent and the commencement of construction are difficult to predict with accuracy and are subject to change, developers should provide timescale 'enveloping' to indicate their best judgement on project scheduling. The CIA should use these schedule 'envelopes' for each identified development, obtained at the time of commencing the CIA, to determine whether there is likely to be a temporal overlap between any phase of the proposed development and any phase of any other development. If so, then all phases and activities of that development must be included in the CIA.

5.4.2 Methodology for assessing spatial overlap

A GIS based platform will be used to identify potential spatial interactions between development projects and how these spatial overlaps relate to the distribution of different environmental receptors, socio-economic infrastructure and transportation infrastructure.

IACC will develop GIS layers that describe the existing baseline resource stock which developers will then utilise to overlay their project details upon. This baseline will include spatial and locational information on all screened-in developments (see Section 4). This will enable the establishment of a common baseline which will be used by different developers in their CIAs. As new projects come forward and are implemented the baseline will evolve

and the GIS baseline will be updated. It will thus be imperative for developers of new projects to ascertain with IACC at the earliest stages of their EIA processes what should be the CIA baseline to be used in their CIAs.

The use of a common baseline will allow spatial interactions between projects to be determined and these interactions will be different depending on the topic under consideration (e.g. ecology, landscape and visual impact, noise, air quality, etc.).

For most environmental topics the use of GIS to illustrate the potential for spatial interactions and an understanding of the temporal overlaps between projects will inform decision making about the potential for cumulative impacts to occur.

5.4.3 Defining Spatial Zones of Influence (ZOIs)

It is not a spatial overlap between developments planning application boundaries that is important for CIA. Instead, it is the potential for overlap between the maximum spatial influence of a project's activities on any receptor. Each development should determine and map the maximum spatial extent around its footprint where there is potential for impacts in any discipline to occur. The following methodology should be used to determine and map the maximum potential extent of any impact on a receptor.

To inform the CIA, the maximum geographical area around the proposed development, where there is potential for impacts to occur, should be identified and described as the impact Zone of Influence (ZOI). The ZOI differs for each discipline and sometimes for different types of impacts or different receptors associated with the same discipline. ZOIs should be delineated for each discipline that include the maximum extent of the geographical area where there is potential for an impact, regardless of type. ZOIs relate both to the 'range' of an impact and also to the location or mobility of a potential receptor. Hence it may be that there would be different ZOIs for different receptors within the same discipline. For example, this would be the case for potential impacts on different ecological receptors: the ZOIs for particular bat or ornithological species may be much larger than the ZOI for, e.g., reptiles whose ranges are much smaller.

In the case of air quality, the ZOI would be likely to include areas that have the potential to be affected by both construction dust transport-related vehicle emissions and point source releases from the operating development. The ZOI for air quality would typically extend to a maximum of 150m around a construction site where dust may be generated and up to 200m either side of a road route corridor where an uplift in traffic volume may occur as a result of development related activities. Operational emissions have the potential to affect a large area from their point of entry into the atmosphere as determined by appropriate dispersion modelling. The ZOI for landscape and visual impact may be extensive to reflect the Zone of

Theoretical Visibility (ZTV) for a development that occupies a prominent position in the landscape and is of significant scale (height and mass).

The ZOI for impacts in each discipline area can therefore be described as the geographical boundary of the area within which there is potential for receptors to be affected by impacts specific to that discipline area, taking account of all sensitive receptors located within that zone (static and mobile). Example criteria used by individual disciplines to define the ZOI for impacts are indicated in Appendix B.

ZOIs for each discipline should be mapped as a GIS layer for the potential zone over which an impact can occur within that discipline. By overlaying discipline ZOIs it is possible to identify any potential within-development (Level 1) interactions. An 'overall ZOI' should then be created for the development by overlying the ZOIs from all disciplines. Similar overall ZOIs should be created for any associated development distant from the main site (if any) and these overall ZOIs overlaid in GIS so that within-development (Level 2) interactions can be determined. In a similar manner, the overall ZOI for different developments should be overlaid in GIS to determine Level 3 between-development interactions.

Example ZOI maps derived from experience gained from the HPC NNB project for different disciplines are provided in Appendix C to illustrate this approach. Maps for the air quality, ecology and landscape and visual impact disciplines are presented and these were generated in accordance with the ZOI criteria presented in Appendix B. Note that the air quality ZOI includes the principal road routes that would be utilised for development related traffic and the potential for construction and operational emissions from the main power station development site and associated development sites. In the case of HPC the ecology ZOI is large and due in part to the foraging range of bats which are known to be present in the Quantock Hills SAC to the west of Hinkley Point. The ZOI for landscape and visual impact is the largest of all the discipline ZOIs reflecting the extensive Zone of Theoretical Visibility of the new power station site.

An amalgamated ZOI map which shows all of the ZOIs for the HPC project example is also provided in Appendix C.

Once a potential interaction has been identified, the relevant potentially cumulating development is scoped-into the CIA and it should then be assessed to determine whether it is an impact (i.e. causes a change in a receptor) and if so, whether it is significant or not. This forms the main part of the cumulative impact assessment.

While GIS for most environmental topics would be a useful tool to aid decision making it will be of more limited use for socio-economic impacts which will operate on less distinct and wider spatial scale. The spatial scoping and extent of the Zones of Influence associated

with socio-economic impacts are likely to be much larger than many of the environmental disciplines.

The key consideration in relation to socio-economic impacts is the scale of the employment impacts associated with the construction, and to a lesser extent, operational phases. The overall scale and origin of the workers that fill the employment opportunities created by a development are the key factors to consider. These determine the subsequent changes in population and demands on services and infrastructure.

For large scale infrastructure related development projects associated with Anglesey the workforce is likely to consist of a considerable proportion of in-migrant workers who would move to Anglesey and the wider North Wales from outside of the travel to work area. In-migration could also extend to the rest of the UK and outside UK borders if particular expertise is required to ensure efficient project delivery. However undertaking analysis of development projects at this wider scale is not practical. Here the relevant ZOI for analysis and to understand spatial overlap is assumed, in accordance with best practice to be the travel to work area.

Beyond employment impacts, GIS can be used to look at the more direct impacts of single developments (land take impacts, interactive impacts within a development project from different disciplines e.g. noise, vibration, visual and transport) on socio-economic receptors and the information can then be used to identify the specific locations and potential interactive impacts of cumulative developments. The mapping of socio-economic resources outlined as part of the socio-economic impact methodology for the EIA is the first stage of this process.

Dependent on the scale and nature of the different workforces associated with each phase of a development project there will be different impacts on wider socio-economic resources. For example a large influx of in-migrant workers to an existing settlement will create impacts on a range of services e.g. health, education and recreation within the local area. Each of the receptors will have a different catchment based on travel time and service specific thresholds. Defining which will be impacted by a development depends on the location and scale of the additional demand or workforce, their behaviours and the catchment/service thresholds involved in each service context. In considering cumulative impacts on services these spatial areas (ZOIs) and the existing context need to be given thorough consideration.

With specific reference to the socio-economic discipline examples of the relevant impacts for different phases of projects and their spatial scope are included in Section 3.

5.4.4 Using the Source-Pathway-Receptor model for 'scoping-out' of impacts

In addition to spatial and temporal scoping, a final step in the scoping process is to carry out a source-pathway-receptor test. This is a useful tool for scoping out impacts that are very unlikely to be significant.

5.4.5 Development and discipline-specific interaction matrices.

Once temporal and spatial scoping has been completed, it is anticipated that developers will draw up both development and discipline-specific interaction matrices. To demonstrate in an easily understandable form, how scoping of impacts has been undertaken. Examples of each are provided below.

(a) Development Interaction (or Scoping) Matrix

A development interaction matrix is used to compare either Level 1 and 2 'project wide' cumulative impacts (in which case, for example, Development X is compared to all of its associated developments), or Level 3 'wider' (or between-development) cumulative impacts. In the case of 'between-development cumulative impacts, it compares Development X against all other cumulative developments and indicates for each instance where there is the potential for any interaction between the activities of the proposed development and any other development. Note that this is the stage before any interaction is assessed to determine whether there could be a cumulative impact. An example of such a development interaction matrix, which provides the results of scoping, is illustrated below.

Table 12 Example of Development X scoping matrix

Development X	Development A	Development B	Development C	Development D
Socio-economic	√		√	√
Transport	√	√	√	√
Landscape +VI		√	√	
Cultural Heritage		√	√	√
Geology			√	
Hydrology	√			
Soils and Land Use	√			
Terrestrial Ecology		√	√	
Marine Ecology			√	
Air Quality	√		√	√
Noise and Vibration	√	√	√	√

(b) Discipline-specific Interaction (or Scoping) Matrix

Once an interaction between developments has been identified, each technical discipline expert will assess whether there is the potential for a cumulative impact on that discipline's receptors, caused by addition or interaction with any discipline for other cumulative development. As for the development scoping matrix, this is the stage before any interaction is assessed to determine whether there could be a cumulative impact. An example of such a discipline interaction matrix is provided for noise below.

Table 13 Example of a discipline-specific scoping matrix

Development X Noise	**Development A**				**Development B**				**Development C**			
	Air Quality	**Ecology**	**Noise & Vibr**	**Amenity**	**Air Quality**	**Ecology**	**Noise & Vibr**	**Amenity**	**Air Quality**	**Ecology**	**Noise & Vibr**	**Amenity**
On site engines	√	√	√	√	√		√	√	√	√	√	
On site vehicles	√	√		√	√		√	√	√	√		
On site piling		√	√	√	√		√	√				
On site excavation	√	√	√		√		√	√	√	√	√	
Off site traffic	√		√	√	√		√		√	√	√	√
Off site accommodation				√								√

In this example which concerns a noise interaction matrix, ticks in boxes with noise and vibration indicate potentially additive cumulative impacts while ticks in boxes with air quality, ecology and amenity indicate potentially interactive cumulative impacts. The next stage in the CIA process, the detailed assessment of cumulative impacts assesses each 'tick' in the scoping matrix to firstly determine whether it is a cumulative impact and secondly to determine whether it is significant or not.

The interaction (or scoping) matrices are a very useful tool for (a) comparing potentially cumulative impacts between different developments, (b) summarising all identified interactions between disciplines over a number of different potentially cumulative developments and (c) determining which cumulative developments and disciplines will be taken forward to the detailed cumulative impact assessment.

5.4.5 Documenting and Reaching Consensus on Scoping

Once both temporal and spatial scoping phases of the CIA have been completed, the developer will submit a Final Screening and Scoping Report to the IACC so that the scope can be confirmed before detailed CIA commences.

The Final CIA Screening and Scoping Report will typically be no more than 10 pages long. It will summarise the screened-in cumulative developments and will provide details of temporal

and spatial scoping (based on discipline-specific ZOI analysis), indicating for which disciplines there could be **potentially** cumulative impacts.

It will be IACC's responsibility to respond to each Preliminary CIA Screening and Scoping Report within 14 days from date of submission.

Summary of the CIA Scoping Process

Developer X assesses project-specific timeline

Developer of Project X carries out temporal scoping:

Scopes out all IACC developments whose projected timelines:

- pre-date commencement of Project X construction, or
- post-date completion of construction of Project X.

Developer X creates project-specific GIS and ZOIs for each discipline

Developer X carries out spatial scoping – using baseline GIS:

- Each ES discipline creates a ZOI for its receptors
- GIS used to overlay Project ZOIs (per discipline) with the equivalent ZOIs from all scoped-in developments
- scope out all IACC developments where there are no overlapping ZOIs

Developer X draws up development and discipline-specific interaction (scoping) matrices

The matrices summarise the scoped-in developments and disciplines that will be taken forward to detailed cumulative impact assessment.

5.5 Assessment of Cumulative Impacts

The cumulative impact assessment is in two stages. The purpose of the first stage of the cumulative impact assessment is to assess the likelihood and significance of **potential** impacts on a discipline by discipline basis in order to scope out all insignificant impacts. The purpose of the second stage is to carry out a detailed assessment of significant cumulative impacts in order to assess suitable mitigation measures. In both cases, the approach and terminology should be similar to that outlined for EIA in Section 3 of this document.

5.5.1 Stage 1 - Scoping out Insignificant Impacts

There are two logical stages in the scoping-out of impacts, relating to (a) scoping out because a cumulative impact is unlikely to occur and (b) scoping out because an impact is not significant.

(a) Source-Pathway-Receptor approach

The Source-Pathway-Receptor model for scoping-out impacts is a useful tool for the majority of disciplines for assessing whether an impact is likely to occur or not. In the most cases, the source of an impact (a development activity, such as generation of noise from piling) and the receptor (e.g. a nearby occupied residential property) are the first elements of the equation that are identified. In cumulative impact assessment, there is likely to be more than one pathway. For a cumulative impact to occur, the same receptor must be changed by impacts from more than one source and potentially more than one pathway.

(b) Carrying Capacity and Thresholds

In addition to the magnitude of an impact (assessed as for EIA in Section 3 and Table 2) and the value/sensitivity of a receptor (assessed as for EIA in Section 3 and Table 3), the concept of 'carrying capacity' is a useful tool in many disciplines for determining whether an impact is likely to be significant or not. Carrying capacity refers to the ability of a resource to cope with incremental increases in change caused by a number of impacts acting either simultaneously or sequentially. Assessment of carrying capacity may lead to a discipline defining thresholds beyond which further impacts would not be acceptable.

Examples of carrying capacity and likely pinch points in relation to the specific Anglesey context and the socio- economic discipline are covered in Appendix F.

The purpose of scoping out insignificant impacts is to ensure that the main focus of the CIA (i.e. the detailed assessment of significant cumulative impacts) is well explained, robust, and transparently assessed to permit the design of appropriate mitigation measures.

5.5.2 Stage 2 - Detailed Assessment of Significant Cumulative Impacts

Once all insignificant cumulative impacts have been scoped out by discipline experts, and their scoping out has been justified, potentially significant impacts should then be assessed using the EIA methodology described in Section 3 of this document and as illustrated in Figure 3.1. In addition to the description criteria used in EIA (see Section 3), cumulative impacts should also be described in terms of whether they are additive or interactive (Section 4). The approach in CIA should be for each discipline to work through the three levels or hierarchical tiers of the assessment, one by one:

- within-development cumulative impacts
- within project cumulative impacts (for developments that also have associated developments)
- between-development cumulative impacts.

For each discipline in which potentially cumulative impacts have been identified, the assessment can be structured by drawing up an interaction matrix which lists each potentially cumulative development with the activities that are likely to cause the cumulative impact. An example of such a discipline-specific matrix is provided in Figure 5.2 above.

Once the impact magnitude and receptor value/sensitivity of a cumulative impact has been assessed, the significance of cumulative impacts should be assessed using a combination of the Impact Assessment Matrix (Table 5) as an aid, together with professional judgement. Each step of the assessment should be described and justified.

The significance of a potential cumulative impact will be dependent on the nature of the receptor within the ZOI and the sensitivity of that receptor to any change in the baseline conditions from a number of sources. As for EIA, receptor sensitivity can often be identified by means of designation (for example, a Special Area of Conservation (SAC), Special Protection Area (SPA) or Scheduled Ancient Monument). Alternatively the receiving environment may be a sensitive area receptor which falls within certain categories; for example, an aquifer for potable water or a noise sensitive area (e.g. nearby residential properties).

The emphasis within the CIA is to undertake quantitative assessment using data that has been verified. However, where such is appropriate, and only when fully justified, professional judgement should also been used to inform the CIA.

5.5.3 Mitigation Measures

Where significant cumulative impacts are identified, mitigation measures and monitoring proposals should be developed where appropriate. Where such impacts are a result of the proposed development acting cumulatively with another development(s), mitigation measures should be developed in consultation with the promoter of that cumulative development(s).

Mitigation in CIA is a difficult area to address particularly where several developments have an impact on the same receptor(s) with the impact arising from different developments being likely to vary in magnitude (spatially and temporally). It is recognised that there must be "fairness" and proportionality in attributing responsibility with respect to both beneficial and adverse impacts. Accordingly, mitigation for all significant cumulative impacts will be assessed on a one impact by one impact and one receptor by one receptor basis. The concept of 'proportional' responsibility will be adopted. In this respect, the IACC's Energy Island Programme will play a brokering role in promoting bilateral and multilateral dialogue among pertinent developers.

Some examples of potential cumulative impacts requiring proportionally distributed mitigation responsibility are provided below.

(a) Example 1 – Noise impact related to traffic

This example considers the additive noise impact on local residents proximate to main roads associated with traffic flows from two or more development at the same time. Typical mitigation/compensation could include junction improvement and/or double glazing for affected residents (suggested proportionate responsibility could be - if developer causes 75% of increased traffic flows then they pay 75% of the mitigation/compensation costs)

(b) Example 2 – Water course crossings.

Two or more stream crossings with potential to cause an additive adverse impact on downstream river water quality and possibly downstream fisheries. Mitigation proposed = specific in-stream sediment trapping (costs borne by each development for each stream crossing under their physical area of responsibility as defined by planning consent boundaries).

(c) Example 3 – Workforce need for and impact on existing services (e.g. health and education)

Two or more developments create the demand for in-migrant construction workers and as such this places additional demand on local services. Mitigation proposed and the division of responsibility would ultimately depend on a number of factors 1) The absolute size of each development's workforce which are in-migrants 2) The extent to which in-migrant workers relocate to the area and bring their households/families to live with them 3) The phasing of the construction programme and related demand for workers 4) The current capacity within existing social infrastructure (GPs, schools, dentists etc) to absorb additional demand.

This requires a sufficient level of detail to be provided on the workforce profile and behaviours by each project developer to understand the cumulative impacts and apportion responsibility. This is not always easy to predict prior to development and as such there is a need to consider existing precedents and evidence to make the assessment. Further to this there is also a need to understand capacity within the existing social infrastructure. On this point there is potentially a role for IACC to play in developing and maintaining a clear rolling baseline of social and community infrastructure to inform their service planning and provide a consistent basis for negotiation in this context.

(d) Example 4 - Accommodation requirement for in-migrant workforce

In a similar situation to example 2 the in-migrant workforce from two or more projects will also create additional demand for housing which would have impacts on the existing supply.

The main issue in the Anglesey context (also see appendix e for other relevant EIA/CIA issues) is the accommodation strategy and timing of this for the Wylfa Nuclear New Build construction phase and the relationship with the Penrhos Leisure Village which is being proposed as one of the possible locations for housing a proportion of the construction workforce. Given the uncertainty over the timing of both developments, the preferred accommodation strategy and the potential inter-relationship between the two (and other cumulative developments) the issue of housing demand will require more detailed consideration as the strategy and timing becomes clearer.

(e) Example 5 – Incoming workforce – adverse impact on Welsh language/traditional lifestyles

Language impacts would be dealt with outside of the EIA process within a separate language impact assessment – however the issue of proportional responsibility will relate to the same factors as with example 3 above i.e. the scale of and extent to which non-welsh speakers move into the area and reduce the proportion of welsh language speakers. Impacts on traditional lifestyles will ultimately be a qualitative and professional judgment to be made and informed by consultation.

5.5.4 Residual Impacts

The approach for determining the significance of residual cumulative impacts is the same as that applied to the determination of the significance of pre-mitigation cumulative impacts.

Appendix A – Discipline specific impact magnitude definitions

Note: all discipline-specific EIA definitions are applied ***in addition to*** the generic EIA guidance provided in Section 3 of this document.

1. Geology and Contaminated Land Assessment Criteria

Geology / Contaminated Land – Definitions of Impact Magnitude

Magnitude	Guidelines
High	*Geology* Very significant permanent change to solid geology over the whole study area so that it is unrecognisable to baseline conditions down to substantial depths. *Contaminated Soils* Soil contamination is considered to pose a high risk to potential receptors with one or more pollutant linkages certain to be present. Soils certain to be deemed as Part IIA and / or considered unsuitable for use
Medium	*Geology* Significant permanent changes to solid geology over the majority of the study area so that it is unrecognisable to baseline conditions down to substantial depths. *Contaminated Soils* Soil contamination is considered to pose a moderate risk to potential receptors with one or more pollutant linkages likely to be present. Soils likely to be deemed as Part IIA and / or considered unsuitable for use.
Low	*Geology* Noticeable but not significant changes to the near surface geology (weathered material) covering a partial area of the study area or a number of isolated locations. *Contaminated Soils* Soil contamination is considered to pose a low risk to potential receptors with one or more pollutant linkages possibly present. Soils possibly deemed as Part IIA and / or considered unsuitable for use.
Very Low	*Geology* Noticeable but insignificant changes to the near surface geology (weathered material only) at a small number of isolated locations across the study area. *Contaminated Soils* Soil contamination is considered to pose a very low risk to potential receptors with one or more pollutant linkages unlikely to be present. Soils unlikely to be deemed as Part IIA and / or considered unsuitable for use.

Geology / Contaminated Land – Definitions of Receptor Value and Sensitivity

Value and	Guidelines

Sensitivity	
High	*Geology* Geology has a national designation (e.g. SSSI) and / or has very low capacity to accommodate any change. *Contaminated Soils* Receptors of high sensitivity and high intrinsic value (e.g. Humans).
Medium	*Geology* Geology has a local or regional designation (e.g. REGIS) and / or has low capacity to accommodate any change. *Contaminated Soils* Receptor of medium sensitivity and value i.e. posses key distinctive characteristics (e.g. important buildings)
Low	*Geology* Geology not designated but possesses key characteristics which may be locally important and / or has a high capacity to accommodate change. *Contaminated Soils* Receptor of low sensitivity and value i.e. possesses some distinctive characteristics (e.g. topsoil which may be utilised for landscaping in the future.
Very Low	*Geology* Geology not designated and is non distinctive and / or is likely to tolerate the proposed change. *Contaminated Soils* Receptor of low sensitivity and value i.e. possesses no distinctive characteristics (e.g. subsoil used for engineering fills

Contaminated Land Assessment Criteria

In addition to the qualitative assessment criteria defined above, where relevant, the description of baseline conditions and the assessment of the significance of potential impacts for contaminated soils have also included comparison to relevant generic environmental assessment criteria as follows:

Environmental Media	Generic Screening Criteria
Soil	*Human health risk* 1. Internally derived AMEC Soil Screening Values (SSVs) using CLEA v1.06, using all the same standard parameters the Environment Agency used to derive standard UK Soil Guideline Values for commercial and industrial end use, with the exception the soil organic matter has been set to 1% 2. DEFRA/EA 2002. Research and Development Publication SGV 10. Soil Guideline Values for Lead Contamination. 3. BS3882:2007 Specification for topsoil requirements for use. 4. Hazardous Waste (England and Wales) Regulations 2005 / Chemical (Hazard Information and Packaging Supply) Regulations 2002. *Phytotoxic risk* 5. Former ICRCL 59/83 (N.B. Paper withdrawn by DEFRA in 2004) 6. Statutory Instrument 1989 No 1263, 'Sludge Use in Agriculture Regulations (1989) (pH value >7). *Ecotoxicological risk* 10. UK and international ecological / ecotoxicological Soil Screening Values. Environment Agency 'An ecological risk assessment (ERA) framework for contaminated soils,' October 2008.
Groundwater	1. UK / EC / WHO Drinking Water Standards and Freshwater and Saline Environmental Quality Standards.
Ground Gas	1. CIRIA 665.

2. Soils and Land Use Assessment Criteria

There is no published guidance on thresholds for assessing what scale of loss is a significant loss of agricultural land, but the presence of best and most versatile land (BMVL) is a factor in the consideration of the sustainability of development proposals as set out in paragraph 28 of PPS7. PPS7 promotes the creation of a sustainable countryside framework, and places the loss of best and most versatile land within the context of meeting wider sustainability objectives. The assessment of magnitude of change is based on (a) *generic guidelines* used throughout this EIA, (b) *timescales* of permanent or temporary (both long and short term) loss of agricultural land and (c) *land area loss thresholds* previously adopted by MAFF when considering proposals involving more than 20 ha of best and most versatile land.

Soils and Land Use - Definitions of Impact Magnitude

Magnitude	Guidelines
High	*Land use and soils* Permanent or long-term (over 10 years) loss of over 50 ha of best and most versatile agricultural land/entire regional/ resource of best and most versatile land (ALC Grades 1, 2, 3a). Existing land use will not be able to continue.
Medium	*Land use and soils* Medium to long term (5-10 years) loss of 20-50 ha of best and most versatile land, or large proportion of local resource of BMVL. Existing land use will be able to continue but noticeable changes occur.
Low	*Land use and soils* Temporary (<5 years) loss of 10 - 20 ha of best and most versatile land, or large proportion of local resource of BMVL. Existing land use will be able to continue but noticeable changes occur.
Very Low	*Land use and soils* Temporary short term (<two years) loss of <10 ha of BMVL. Short term adverse changes to the value of the receptor but recovery is expected in the short term (0 – one years), and there would be no impact on its integrity. No material change to existing land use. Loss or degradation of area of BMVL but a small proportion of local resources. No impact on overall agricultural land availability for wider area/region.

Soils and Land Use – Definitions of Receptor Value and Sensitivity

Value and Sensitivity	Guidelines
High	*Land use and soils* Grade 1 agricultural land, specialised agricultural activity such as horticultural crops, soft fruit, etc. Irrigated agriculture. Higher level Agri-environment scheme lands. Soils with low or no wetness limitation affecting workability (wetness class I or II), where drought is not also a limitation.
Medium	*Land use and soils* Grades 2 and 3a agricultural land. Annual horticultural cropping (non irrigated). Entry level Agri-environment scheme lands. Soils with low wetness limitation affecting workability (wetness class II), where drought is not a limitation.
Low	Land use and soils Grades 3b and lower agricultural land. Arable or grassland areas. Soils with moderate wetness limitation affecting workability (wetness class III or IV).
Very Low	Land use and soils Agricultural land of Grades 4 or 5 Arable or grassland areas. Soils with high wetness limitation affecting workability (wetness class V or VI).

Agricultural Land Assessment Criteria

The criteria used in this assessment are the Agricultural Land Classification Grades as set out by MAFF (1988). Supplementary criteria include soil type and soil quality, crop type(s) and type and location of farm units.

3. Hydrology and Drainage

Hydrology and Drainage – Definitions of Impact Magnitude

Magnitude	Guidelines
High	*Hydrology and drainage* Very significant change to key hydrological / hydraulic characteristics of the receiving water body to the extent that UK and European legislation is contravened. Chronic occurrence of change and / or changes are prolonged, lasting significantly longer than the duration of the hydrological event that initiated the change (i.e. normal period of time over which water levels in watercourse receptors would be expected to rise and fall) Changes are spatially extensive beyond the local area where the impact was incurred. Receptor water body impacted to the extent that permanent change in hydrological / hydraulic characteristics of the receptor water body significantly contravenes regulatory standards with respect to flood risk or low flow in accordance with statutory legislative requirements
Medium	*Hydrology and drainage* Significant changes to key runoff characteristics such that hydrological / hydraulic characteristics of the controlled water body are impacted to the extent that UK and European legislation is contravened. Changes are limited in time to the duration of the hydrological event that initiated the change (i.e. normal period of time over which water levels in watercourse receptors would be expected to rise and fall) Changes are spatially extensive beyond the local area where the impact was incurred. Receptor water body impacted to the extent that permanent change in hydrological / hydraulic characteristics render receptor water body unable to meet regulatory standards with respect to flood risk and low flow in accordance with statutory legislative requirements
Low	Hydrology and drainage Noticeable but insignificant changes to key runoff characteristics such that hydrological / hydraulic characteristics of receptor controlled water bodies would not contravene UK and European legislation.
Very Low	Hydrology and drainage Occasional but insignificant impact to key runoff characteristics with changes to hydrological / hydraulic characteristics of receptor controlled water bodies predicted to occur over a short period of time. Any change to hydrological / hydraulic characteristics will be quickly reversed once activity ceases.

Hydrology and Drainage – Definitions of Receptor Value and Sensitivity

Major	Watercourse with pristine or near pristine water quality. Environmental equilibrium highly prone to natural fluctuations and cannot absorb further change without fundamentally altering its present character. **Receptor of high environmental importance,** i.e. internationally designated sites, such as Ramsar Sites, Special Protection Areas, Biosphere Reserves, Special Areas of Conservation, or otherwise meeting criteria for international designation, nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria, National Nature Reserves (NNRs), Marine Nature Reserves. **Designated for freshwater ecological interest** e.g. salmonid fishery and/or salmonid spawning grounds present or freshwater pearl mussel. Hydrologically highly-sensitive feature (other than watercourse) that currently supports particular species protected by national / international designation or legislation. Surface or ground water is subject to abstraction for public drinking water supply, private water abstractions for populations exceeding 25 people, or large scale industrial/agricultural abstractions. **Principal Aquifers** of regional importance. Aquifers subject to abstractions for public supply. Watercourse with significant active floodplain area. Water widely used for recreational activities directly related to water quality i.e. swimming, salmon fishery etc.
Medium	Watercourse whose environmental equilibrium copes well with some natural fluctuations but some natural fluctuations alter its present character. WFD 'ecological status' or GQA rating "B" (Good). May be subject to improvement plans by the EA as part of the RBMP. Designated cyprinid fishery, possible salmonid species present and catchment regionally important for fisheries. Hydrologically highly-sensitive feature (other than watercourse) that has the potential to support particular species protected by national / international designation or legislation. Surface or groundwater abstractions for private water supplies for populations less than 25 people. Secondary A Aquifers of local importance. Surface or groundwater abstractions for private water supplies for populations less than 25 people. Some active floodplain area.
Low	Watercourse whose environmental equilibrium copes well with all natural fluctuations but cannot absorb some changes greater than this without alteration of its present character. Receptor is of medium environmental importance or of regional value. WFD 'ecological status' or GQA rating "C" (Fair) and subject to improvement plans by the EA as part of the RBMP. Secondary B Aquifers of local importance Small scale industrial or agricultural abstractions only. Catchment only of local importance for fishing. Minor recreational use and minimal flood storage area.
Very Low	Watercourse whose environmental equilibrium is stable and is considered resilient to changes greater than natural fluctuations without detriment to its natural hydrological morphology and water quality characteristics. Receptor is of low environmental importance, i.e. WFD 'ecological status' or GQA Grade "D" or below and fish sporadically present or restricted. Heavily engineered or artificially modified; may dry up during dry spells (no base flow). Unproductive strata – with neither drinking water supplies nor small scale industrial/agricultural abstractions. Not used for recreation or used as flood storage area.

4. Noise and Vibration

Receptor Sensitivity to Noise

For the assessment methodologies adopted for construction earthworks, the overall sensitivity and value relates to human receptors living in proximity of either the development site or affected highways. The overall value and sensitivity is therefore set at 'Medium' for private dwellings.

Earthworks - equipment noise

Noise from construction earthworks is assessed differently to noise from permanent installations, as it is recognised that these activities are an inevitable by-product of required works and are a transient operation.

Noise levels generated by demolition and site preparation activities are regulated by guidelines and subject to Local Authority control. Advice is contained within British Standard BS 5228: 2009 'Noise and vibration control on construction and open sites' - Part 1 'Noise' 8. This document contains a database of the noise emission from individual items of equipment, activities and routines to predict noise from demolition and construction methods to identified receptors. The prediction method gives guidance on the effects of different types of ground, barrier attenuation and how to assess the impact of fixed and mobile plant. Whilst not mandatory, Annex E of this document provides informative advice to aid the development of assessment criteria based on previous published guidance and methodologies adopted successfully for other planning applications.

In assessing the requirement for noise limits, or operating period controls relating to construction works, Government Agencies and Local Authorities generally give consideration to the following aspects of the planned works, all of which have a bearing on the 'significance' of the impact:

- The duration of the planned construction activities (weeks, months, years);
- Whether some construction works are planned through the night-time period;
- The proximity of the construction works relative to residential areas; and,
- The predicted noise level and noise level impact at residential areas.

The proposed noise emission limits for Preliminary Work activities undertaken within the Development Site are presented in Table 1 below.

Proposed noise emission limits for construction earthworks

Assessment Period	**Construction Noise**

Day of Week	Time of Day	Threshold (free-field)* dB $L_{Aeq,1hour}$
Monday – Friday	07.00 – 19.00	65
	19.00 – 23.00	60
	23.00 – 07:00	45
Saturday	07.00 – 19.00	65
	19.00 – 23.00	60
	23.00 – 07:00	45
Sunday and Bank Holidays	07.00 – 19.00	60
	19.00 – 23.00	55
	23.00 – 07:00	45

Notes: dB re: 20 µPa

* Measured at a noise sensitive receptor location (free-field)

Where L_{Aeq} = the equivalent continuous A-weighted sound pressure level, being the single number that represents the total sound energy measured over that period

Noise levels may be permitted up to 75 dB $L_{Aeq,1hour}$ for specific works of short duration (such as blasting) where "best practicable means" have been demonstrated to WSC and noise sensitive premises have been informed at least 48 hours in advance.

Based on these values, the noise magnitude scale for use in the prediction of potential impacts is presented below.

Noise magnitude scale for construction earthworks activities

Assessment Period		Construction Noise Magnitude dB $L_{Aeq,1hour}$ (free-field)			
Day of Week	**Time of Day**	**Very Low**	**Low**	**Medium**	**High**
Monday – Friday	07.00 – 19.00	<45	45-55	55-65	>65
	19.00 – 23.00	<40	40-50	50-60	>60
	23.00 – 07:00	<35	35-40	40-45	>45
Saturday	07.00 – 19.00	<45	45-55	55-65	>65
	19.00 – 23.00	<40	40-50	50-60	>60
	23.00 – 07:00	<35	35-40	40-45	>45
Sunday and Bank Holidays	07.00 – 19.00	<40	40-50	50-60	>60
	19.00 – 23.00	<35	35-45	45-55	>55
	23.00 – 07:00	<35	35-40	40-45	>45

Vibration during the construction earthworks

Guidance on assessment of the potential vibration impacts associated with construction activities is provided within British Standard BS 5228: 2009 'Noise and vibration control on

construction and open sites' - Part 2 'Vibration'[2]. This document refers to measurement and assessment guidance provided in BS 6472 'Guide to evaluation of human exposure to vibration in buildings' - Part 1: 2008 'Vibration sources other than blasting'[9] and BS 7385 'Evaluation and measurement for vibration in buildings' - Part 1: 1990 'Guide for measurement of vibrations and evaluation of their effects on buildings'[10] and, Part 2: 1993 'Guide to damage levels from groundborne vibration'[11].

For the types of activities proposed during earthworks construction works, plant such as bulldozers, excavators and Heavy Goods Vehicles (HGVs) are likely to be the most significant sources of low frequency noise with the potential to cause resonance in nearby buildings, often perceived as vibration by occupants.

Works associated with heavy plant generally give rise to impulsive and intermittent vibration. In such circumstances, it is necessary to be able to quickly compare the levels against simple criteria which give an immediate evaluation of the likelihood of a problem without recourse to complex post-processing of results. Under these conditions, assessment criteria based on Peak Particle Velocities (PPVs) are most appropriate.

Based on Table B.1 of BS 5228-2[2], the proposed PPV significance criteria for typical construction activities (excluding blasting), measured at a sensitive receptor location, are presented below.

Vibration significance criteria (excludes blasting)

Magnitude	Vibration Level (mm/s PPV)	Impact
High	10	Vibration is likely to be intolerable for any more than a very brief exposure to this level.
Medium	1.0	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents.
Low	0.3	Vibration might be just perceptible in residential environments.
Very Low	0.14	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.

In the case of blasting and ripping operations that may be required during the site levelling and insertion of infrastructure for two deep wells, the potential impacts have been assessed in accordance with British Standard BS 6472 'Guide to evaluation of human exposure to vibration in buildings' - Part 2: 2008 'Blast-induced vibration'[12]. This document provides a

methodology for the prediction of the likely vibration magnitude based on the Maximum Instantaneous Charge (MIC) in kg, and the slant distance from the blast to the receptor in metres. In order to ensure that there are no adverse effects on both existing buildings and fresh concrete, a vibration monitoring scheme will be put in place during this phase of works.

Based on Table 1 of BS 6472-2 [9], the proposed PPV significance criteria for blasting operations, measured at a residential receptor location, are:

Vibration magnitude assessment criteria (blasting operations)

Magnitude	Guidelines
High	Generation of PPV in excess of 24 mm/s
Medium	Generation of PPV in the range of >10 to <24mm/s
Low	Generation of PPV in the range of >6 to <10 mm/s
Very Low	Generation of PPV below 6 mm/s

The above assumes that blasting and ripping will only be undertaken during daytime hours (08:00 to 18:00 Mon to Fri, 08:00 to 13:00 Sat), and that that there will be no more than three blast events per day.

5. Terrestrial Ecology and Ornithology

IEEM (2006) Guidance is the standard for Ecological Impact Assessment (EcIA) and definitions provided in that Guidance will normally be used for all EcIA. The definitions provided below for impact magnitude and receptor value are adapted form that guidance, using the terminology provided in Section 3 of this IACC document.

Terrestrial Ecology and Ornithology – Definitions of Impact Magnitude

Magnitude of Impact	Criteria
High	The change permanently (or over the long-term) adversely affects the conservation status of a habitat/species, reducing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a large area of habitat or large proportion of the wider species population is affected. For designated sites, integrity is compromised. There may be a decrease in the level of biodiversity conservation value of the receptor.
Medium	The change permanently (or over the long-term) adversely affects the conservation status of a habitat/species reducing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a small-medium area of habitat or small-medium proportion of the wider species population is affected. There may be a decrease in the level of biodiversity conservation value of the receptor.
Low	The quality or extent of designated sites or habitats or the size of species' populations, experience some small scale reduction. These impacts are likely to be within the range of natural variability and there is not expected to be any permanent change in the conservation status of the species/habitat or integrity of the designated site. The change is unlikely to modify the evaluation of the receptor in terms of its biodiversity conservation value.
Very Low	Although there may be some impacts on individuals or parts of a habitat area or designated site, the quality or extent of sites and habitats, or the size of species populations would experience little or no reduction. Any impacts are likely to be within the range of natural variability and there would be no short-term or long-term effects on the conservation status of habitat/species receptors or the integrity of designated sites.
Beneficial	Improvement in the quality or extent of habitats, the size of species populations or the integrity of a designated site. This improvement must be achieved without compromising the integrity of the proposed development site or conservation status of the habitat/species that is present prior to development. Criteria for assessing the magnitude of beneficial effects can be derived from the definitions of adverse impacts.

Terrestrial Ecology and Ornithology – Definitions of Receptor Value

Value Level	Value Guidelines
High	International/National designations – SACs, SPAs, Ramsar sites and SSSIs. Cited features of internationally/nationally designated sites. Species populations or habitat areas that are of major importance because of the quality/size of the habitat or the size of the species population in relation to the wider habitat resource/population – species/habitats are most likely to be species/habitats of principal importance under Section 41 of the NERC Act (and UK BAP priority habitats/species), species/habitats that are nationally rare and/or species that are legally protected. The regular occurrence of internationally/nationally important numbers of waterfowl (i.e. 1% or more of the relevant international or national population respectively).
Medium	County Wildlife Sites (CWSs). Features for which CWSs have been designated. Species populations or habitat areas that are of moderate importance because of the quality/size of the habitat or the size of the species population in relation to the wider habitat resource/population – species/habitats are most likely to be species/habitats of principal importance under Section 41 of the NERC Act (and UK BAP priority habitats/species), priority species/habitats in the Local BAP, species/habitats that are rare at the regional/county level and/or species that are legally protected.
Low	Other designated sites of district or local importance including Local Nature Reserves (LNRs), except where these have a higher additional designation. Species populations or habitat areas that are of some biodiversity value because of the quality/size of the habitat or the size of the species population in relation to the wider habitat resource/population – species/habitats are most likely to be species/habitats of principal importance under Section 41 of the NERC Act (and UK BAP priority habitats/species), priority species/habitats in the Local BAP, species/habitats that are rare at the district/local level and/or species that are legally protected species.
Very Low	Species populations or habitat areas that are of very low biodiversity value, typically because they are common and/or are not species/habitats of principal importance under Section 41 of the NERC Act, UK BAP priority habitats/species, priority species/habitats in the Local BAP, species/habitats that are rare at the district/local level and/or legally protected species.

6. Marine Ecology

Marine Ecology – Definitions of Impact Magnitude

Magnitude of impact	Criteria
High	*Marine Ecology description* The quality and availability of habitats and species are degraded to the extent that locally rare populations and habitats are destroyed and protected species and habitats experience widespread change, such that the integrity of the ecosystem and the conservation status of a designation is compromised. Also applies to species and habitats not afforded statutory protection. Activities predicted to occur and affect receptors continuously over the long term, and during sensitive life stages. Impacts likely to be irreversible or reversible, temporary or permanent. Impacts not limited to areas within and adjacent to the development. Recovery expected to be long term i.e. 10 years following cessation of activity.
Medium	*Marine Ecology description* The quality and availability of habitats and species are degraded to the extent that the population or habitat experiences reduction in number or range. Activities predicted to occur and affect receptors regularly and intermittently, over the medium to short term and during sensitive life stages. Impacts likely to be irreversible or reversible, temporary or permanent. Impacts limited to the areas within and adjacent to the development. Recovery expected to be medium term timescales i.e. 5 years following cessation of activity.
Low	Marine Ecology description The quality and availability of habitats and species experience some limited degradation. Disturbance to population size and occupied area within the range of natural variability. Activities predicted to occur intermittently and irregularly over the medium to short term. Impacts likely to be reversible and not likely to coincide with sensitive life stages. Impacts limited to the area within the development. Recovery expected to be short term i.e. one year following cessation of activity.
Very Low	Marine Ecology description Although there may be some impacts on individuals it is considered that the quality and availability of habitats and species would experience little or no degradation. Any disturbance would be in the range of natural variability. Activities predicted to occur occasionally and for a short period. Impacts likely to be reversible and not likely to coincide with sensitive life stages. Impacts limited to the area within the development. Recovery expected to be relatively rapid i.e. less than ~ 6 months following cessation of activity.
Beneficial	Marine Ecology description Improvement in the quality and availability of habitats and species to the extent that the range/size of species populations and habitats is extended or increased without compromising the integrity of the site ecosystem. Beneficial activities ongoing to maintain benefits over long- medium- or short timescales.

Marine Ecology – Definitions of Receptor Value and Sensitivity

The value and sensitivity of the receptor is a function of a variety of factors, e.g. biodiversity value, social/community value and economic value.

The value or potential value of a resource or feature can be determined within a defined geographical context. The following hierarchy is recommended by the Institute of Ecology and Environmental Management (IEEM (2006)[6].

- International;
- National (i.e. England/Northern Ireland/Scotland/Wales);
- Regional;
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- Local or Parish; and,
- Within zone of influence (which might be the project site or a larger area).

Marine Ecology – Definitions of Receptor Value and Sensitivity

Definition	Value and Sensitivity Guidelines
High	Value Feature / receptor possesses key characteristics which contribute considerably to the distinctiveness, rarity and character of the site / receptor e.g. Designated features of International / National designation / importance e.g. SAC, SSSI, Ramsar, SPA, BAP etc. Feature / receptor possess important biodiversity, social/community value and / or economic value. Feature / receptor is rarely sighted. Sensitivity Receptor populations are identified as having very low capacity to adapt to, or recover from, proposed form of change i.e. population is highly sensitive to change and/or currently unstable.
Medium	Value Feature / receptor possesses key characteristics which contribute considerably to the distinctiveness, rarity and character of the site / receptor e.g. Designated features of Regional / County designation / importance e.g. BAP, Nature Reserves. Feature / receptor possess moderate biodiversity, social / community value and / or economic value. Feature / receptor is occasionally sighted. Sensitivity Receptor is identified as having low capacity to accommodate proposed form of change i.e. is moderately sensitive.
Low	Value Feature / receptor only possess characteristics which are of District or Local importance. Feature / receptor not designated or only designated at the district or local level e.g. LNR. Feature / receptor possess some biodiversity, social/community value and / or economic value. Feature / receptor is relatively common. Sensitivity

[6] Institute of Ecology and Environmental Management (IEEM (2006)

Definition	Value and Sensitivity Guidelines
	Feature / receptor is identified as having some tolerance of the proposed change subject to design and mitigation etc i.e. is only slightly sensitive.
Very Low	Value Feature / receptor characteristics do not make a contribution to the character or distinctiveness locally. Feature / receptor not designated. Feature / receptor possess low biodiversity, social / community value and / or economic value. Feature / receptor is abundant. Sensitivity Feature / receptor identified as being generally tolerant of the proposed change i.e. of low sensitivity.

Marine Ecology Assessment Criteria

The baseline against which the impact assessment is assessed is considered to be legislative compliance. Given that the setting of conditions on discharge consents (which are utilised frequently to control discharges to controlled waters under the Water Resources Act, 1991 is subject to agreement and liaison with the Environment Agency, it is important to point out that discharge consenting and the conditions applied (both in terms of quantity and chemical quality) are considered in this assessment to be mitigation, not legislative compliance.

7. Air Quality

Specific criteria for the assessment of potential air quality impacts have been developed based upon current published Best Practice Guidance. Therefore, within this Technical Note, some generic descriptions (as applied to the majority of the other Technical Notes) have not been adopted, and instead the following specific air quality magnitude / risk and significance criteria have been used that are commonly applied when assessing potential air quality impacts. Given the difference in the potential air quality impacts and assessment methodologies applied to construction and vehicular pollutant emissions to air, two separate assessment criteria have been developed and applied.

Assessment criteria applied to vehicular emissions and on-site exhaust emissions to air from construction plant and machinery

The descriptors presented below for the magnitude of change in ambient pollutant concentrations and impact significance, for vehicular emissions and on-site exhaust emissions to air from construction plant and machinery, have been developed from guidance published in the Environmental Protection UK (EPUK, formerly NSCA) document entitled 'Development Control: Planning for Air Quality'7.

[7] Environmental Protection UK (formerly NSCA). 'Development Control: Planning for Air Quality' (2006).

Magnitude criteria developed for vehicular emissions and on-site exhaust emissions to air from construction plant and machinery

Magnitude of change	Annual mean NO_2 / PM_{10}	Days PM_{10} > 50 µg/m^3	Hours NO_2 > 200 µg/m^3	15-minutes SO_2 > 266 µg/m^3	Hours SO_2 > 350 µg/m^3	24-hours SO_2 > 125 µg/m^3
Very large	Increase > 25%	Increase > 25	Increase > 13	Increase > 25	Increase > 17	Increase > 2
Large	Increase 15-25%	Increase 15-25	Increase 8-13	Increase 15-25	Increase 10-17	Increase > 2
Medium	Increase 10-15%	Increase 10-15	Increase 5-8	Increase 10-15	Increase 7-10	Increase 1-2
Small	Increase 5-10%	Increase 5-10	Increase 3-5	Increase 5-10	Increase 3-7	Increase 1-2
Very small	Increase 1-5%	Increase 1-5	Increase 1-3	Increase 1-5	Increase 1-3	Increase 1-2
Extremely small	Increase < 1%	Increase < 1	Increase < 1	Increase < 1	Increase < 1	Increase < 1

These magnitude criteria will be applied to pollutant concentrations predicted by the modelling of vehicular emissions to air, and exhaust emissions to air from on-site construction plant and machinery. For long-term pollutant emissions, the magnitude of change is determined based upon the magnitude of increase of the annual mean concentration of NO_2 or PM_{10}. For short-term pollutant emissions, the magnitude of change is determined based upon the number of exceedences of the short-term UK air quality limit concentration for PM_{10}, NO_2 or sulphur dioxide (SO_2).

With regards to short-term pollutant emissions, the EPUK guidance only considers the 24-hour mean PM_{10} objective of 50 µg/m^3, not to be exceeded more than 35 times a year. The number of exceedences of the short-term NO_2 and SO_2 air quality limit concentrations within each magnitude category have been calculated based upon the same percentages of the total permitted number of exceedences of the 24-hour mean PM_{10} limit concentration defined in each of the magnitude categories in the EPUK document. For example, within the EPUK guidance, the 'medium' magnitude of change category refers to an increase or decrease of 10 to 15 exceedences of the short-term 24-hour mean PM_{10} objective, not to be exceeded more than 35 times a year. Ten exceedences is 28.6% of the 35 permitted, whilst 15 exceedences is 42.9%. Using these percentages, the 'medium' magnitude of change category has been extrapolated for the short-term 1-hour mean NO_2 air quality objective of 200 µg/m^3 (not to be exceeded more than 18 times a year) to include between 5 to 8 exceedences of 200 µg/m^3.

Once the magnitude of the potential impact is established by following the above methodology, the degree of significance of an adverse impact is determined for every potential impact from the Impact Assessment Matrix (IAM) shown below.

Impact assessment matrix for vehicular pollutant emissions to air

		Magnitude of the potential impact					
		Extremely small	**Very small**	**Small**	**Medium**	**Large**	**Very large**
Absolute concentration in relation to standard	**Above standard without scheme**	Slight adverse	Slight adverse	Substantial Adverse	Substantial Adverse	Very Substantial Adverse	Very Substantial Adverse
	Below standard without scheme, above with scheme	Slight adverse	Moderate adverse	Substantial Adverse	Substantial Adverse	Very Substantial Adverse	Very Substantial Adverse
	Below standard with scheme, but not well below	Negligible	Slight Adverse	Slight Adverse	Moderate Adverse	Moderate Adverse	Substantial adverse
	Well below standard with scheme	Negligible	Negligible	Slight Adverse	Slight Adverse	Slight Adverse	Moderate Adverse

Well below the standard = < 75% of the standard level.

Standard' in the context of this table relates to specific air quality objective or Limit Value in question.

Assessment criteria applied to construction dust emissions to air

Best practice guidance issued by London Councils[8] provides guidelines that allow the evaluation of potential risk of air quality impacts occurring during the demolition or construction of a site and these have been adapted for consideration of the proposed Preliminary Works jetty construction activities. The evaluation criteria used to define risk are presented below.

[8] Greater London Authority and London Councils. 'The control of dust and emissions from construction and demolition - Best Practice Guidance' (2006).

Best practice guidance on dust risk classification

Risk categories	Criteria
Low Risk Site (Small Developments)	Development of up to 1,000 m^2 of land; or Potential for emissions and dust to have an infrequent impact on sensitive receptors.
Medium Risk Site (Medium Development)	Development between 1,000 and 15,000 m^2 of land; or Potential for emissions and dust to have an intermittent or likely impact on sensitive receptors.
High Risk Site (Large Developments or Strategic Importance)	Development of greater than 15,000 m^2 of land; or Major Development as defined by the LPA; or Potential for emissions and dust to have a significant or likely impact on sensitive receptors.

The above classifications are proposed in the absence of specific dust mitigation measures and are used in combination with site specific conditions to inform the assessment of the significance of the potential impact of dust nuisance from the proposed development.

Once the risk category is established by following the above methodology, the degree of significance of an adverse impact is determined for each potential impact from the Impact Assessment Matrix (IAM) shown below. The impact criteria in the Table below have been developed for assessment of the construction earthworks impacts of dust nuisance. The 200 metre distance criterion is based on the distance beyond which no significant impacts are expected for road traffic9. The 100 metre distance criterion is based on guidance which assumes that the majority of dust is deposited within 100 metres of the emissions sources10. The 50 metre criterion allows the identification of properties which are close to the source and therefore likely to receive greater impacts during construction activities.

Impact assessment matrix for construction dust emissions to air

		Risk from development		
		Low	**Medium**	**High**
Distance to receptors (m)	**100-200**	Negligible	Negligible	Minor
	50-100	Minor	Moderate	Moderate

[9] Highways Agency. 'Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3 Environmental Assessment Techniques' (2007).

[10] Office of the Deputy Prime Minister 'Minerals Policy Statement 2: Controlling and Mitigating the Effects of Mineral Extraction in England – Annex 1: Dust' (2005).

	0-50	Minor	Moderate	Major

Assessment of Impacts during construction earthworks activities

A qualitative assessment of the potential air quality impacts due to the generation and dispersion of dust / PM_{10} during the Preliminary Works jetty construction phase has been undertaken using information in guidance documents produced by the following organisations:

- Building Research Establishment (BRE)[11];
- Quality of Urban Air Review Group (QUARG)[12]; and
- Greater London Authority and London Councils[13].

As there are no formal assessment criteria for dust and PM_{10} generation and dispersion during construction, the significance of impacts associated with this phase of the proposed development has been determined qualitatively by:

- Identifying the Preliminary Works construction activities associated with the proposed development which could generate dust and PM_{10} and their likely duration;
- Identifying sensitive receptors (e.g. schools, residential properties, ecological receptors) within 200 metres of the construction site boundary;
- The prevailing wind direction and wind speed; and
- The presence of vegetation surrounding the site, which can act as a buffer.

In terms of ecological receptors, consideration has been given to the potential construction dust / PM_{10} impact on designated ecological sites that are in close proximity to the proposed earthworks.

[11] Kukadia, V., Upton, S. L. and Hall, D. J. 'Control of dust from Construction and Demolition Activities' (2003).

[12] Quality of Urban Air Review Group (QUARG). 'Airborne Particulate Matter in the United Kingdom – Third Report of the Quality of Urban Air Review Group' Prepared for the Department of the Environment (1996).

[13] Greater London Authority and London Councils. 'The control of dust and emissions from construction and demolition – Best Practice Guidance' (2006)

In addition to these ecological receptors, the potential impact of construction dust / PM_{10} on the closest air quality sensitive human health receptors to the proposed construction earthworks has also been considered.

Emissions from on-site exhaust emissions to air from construction plant and machinery were also assessed qualitatively, based upon the assumed numbers of equipment expected on site during each stage of the construction earthworks.

8. Archaeology and Cultural Heritage

There is, as yet, no standard or guidance published by the IfA or EH specifically relating to EIAs for the historic environment. In the absence of this, guidance on assessing the effects of roads schemes on the historic environment, given in the Design Manual for Roads and Bridges (DMRB)14, has been adapted as appropriate to inform the preparation of this chapter.

Archaeology and Cultural Heritage – Definitions of Impact Magnitude

The magnitude of impact has been based on the consequences that the proposed development will have upon the historic environment resource and has been considered in terms of high, medium and low as shown below (adapted from DMRB[14]).

Magnitude	Impact
High	*Archaeology and Cultural Heritage* Complete removal of an archaeological site. Severe transformation of the setting or context of a heritage asset or significant loss of key components in a monument group.
Medium	*Archaeology and Cultural Heritage* Removal of a major part of an archaeological site's area and loss of research potential. Partial transformation of the setting or context of a heritage asset or partial loss of key components in a monument group. Introduction of significant noise or vibration levels to a monument leading to changes to amenity use, accessibility or appreciation of a heritage asset. Diminished capacity for understanding or appreciation (context) of a heritage asset.
Low	*Archaeology and Cultural Heritage* Removal of a minor part of the total area of a heritage asset, but the site retains a significant future research potential. Minor change to the setting of a heritage asset.
Very Low	*Archaeology and Cultural Heritage* No significant physical impact or change. No significant change in setting or context. No impact from changes in use, amenity or access.

[14] Highways Agency (2007). 'Design Manual for Roads and Bridges (DMRB), Volume 11: Environmental Assessment, Section 3, Part 2, Cultural Heritage'.

Archaeology and Cultural Heritage – Definitions of Receptor Value/Importance

Assessment of the importance of heritage assets is based upon existing designations and the criteria described below, which are based on DMRB14.

Importance	Description
High	*Archaeology and Cultural Heritage* Ancient monuments scheduled under the Ancient Monuments and Archaeological Areas Act 1979, or archaeological sites and remains of comparable quality, assessed with reference to the Secretary of State's non-statutory criteria referred to in PPS5 and as set out in PPG16, Annex 4. Historic buildings that can be shown to have exceptional qualities in their fabric or historical association (for example Grade I or II* Listed Buildings).Well preserved historic landscapes preserving visible elements from medieval or earlier patterns.
Medium	*Archaeology and Cultural Heritage* Archaeological sites and remains which, while not of national importance, fulfil several of the Secretary of State's criteria and are important remains in their regional context. Historic buildings that can be shown to have important qualities in their fabric or historical association (for example, many Grade II listed buildings). Averagely well-preserved historic landscapes.
Low	*Archaeology and Cultural Heritage* Archaeological sites and remains that are of low potential or minor importance. Historic buildings of modest quality in their fabric or historical association. Historic landscapes with specific and substantial importance to local interest groups, but with limited wider importance.
Very Low	*Archaeology and Cultural Heritage* Buildings of no architectural or historical merit. Areas in which investigative techniques have produced negative or minimal evidence for archaeological remains, or where previous large-scale disturbance or removal of deposits can be demonstrated. Almost wholly modern landscapes created through the removal of historic boundaries.
Unknown	*Archaeology and Cultural Heritage* Buildings with some hidden (i.e. inaccessible) potential for historic significance. Areas that may contain potential for significant archaeological remains.

9. Landscape and Visual Impact

The magnitude of a landscape impact is assessed according to:

- Scale or degree of change to the existing landscape resource;
- Nature and duration of the change caused by the proposed development (for example beneficial or adverse); and
- Timescale or phasing of the proposed development.

Guidelines for the assessment of magnitude of landscape impacts are presented below.

Landscape – Definitions of Impact Magnitude

Magnitude	Description
High	Total or widespread loss or major alteration to key landscape elements /characteristics
Medium	Partial loss or alteration to one or more key landscape elements/characteristics.
Low	Limited loss or alteration to one or more key landscape elements/characteristics.
Very Low	Extremely limited loss or alteration to one or more key landscape elements/characteristics.

Landscape - Definitions of Receptor Value and Sensitivity

According to the GLVIA, the sensitivity of the landscape resource is described as "*the degree to which a particular landscape type or area can accommodate change arising from a particular development without detrimental effects on its character (...)*". the overall sensitivity of the existing landscape resource will vary with:

- *Existing land use;*
- *The pattern and scale of the landscape*
- *Visual enclosure/openness of the view, and distribution of visual receptors;*
- *The scope for mitigation, which would be in character with the existing landscape;*
- *The value placed on the landscape."*

In addition to the above list of considerations, the GLVIA also considers that sensitivity of the landscape resource is based on evaluation of factors such as quality, value, contribution to landscape character and degree to which elements can be replaced or substituted.

Landscape - Definitions of Receptor Value and Sensitivity

Sensitivity	Description
High	A landscape of particularly distinctive character and scenic quality. Nationally and regionally designated landscape for its scenic quality and character
Medium	A landscape of moderately distinctive character and scenic quality. Locally designated landscape for its scenic quality and character

Low	A landscape of no distinctive character and scenic quality. A landscape not subject to any form of landscape designation.
Very Low	A landscape that is damaged, neglected or poor character and lacking scenic quality. A landscape not subject to any form of landscape designation.

Visual Impact – Definitions of Impact Magnitude

The magnitude of visual impacts is definied as high, medium, low or very low and depends upon the following factors:

- The scale of change or proportion of the existing view that would change as a result of the proposed development;
- The loss or addition of features or elements within the view
- The degree of contrast or integration of the proposed development with the existing or remaining landscape elements and characteristics within the view;
- The nature and duration of the impact and whether it is temporary or permanent, continuous or intermittent;
- The angle of the view in relation to the main activity of the receptor; and
- The distance of the viewpoint from the proposed development.

Magnitude	**Description**
High	Complete change or widespread alteration to the existing view.
Medium	Noticeable but localised alteration to the existing view.
Low	Partial and very localised alteration to the existing view
Very Low	Barely perceptible change to the existing view. It may be difficult to differentiate the proposed development from the surroundings.

Visual Impact – Definitions of Receptor Sensitivity

Visual Sensitivity is established in relation to visual receptors. Visual receptors are interest or viewer groups that may experience an effect arising from the proposed development. According to the GLVIA, the sensitivity of visual receptors depends on:

- *"the location and context of the viewpoint;*
- *The expectations and occupation or activity of the receptor;*
- *The importance of the view (which may be determined with respect to its popularity or numbers of people affected, its appearance in guidebooks, on tourist maps, and in facilities provided for its enjoyment and references to it in literature or art)."*

Sensitivity	Description
High	Viewers with the proprietary interest, specific interest in the view and prolonged viewing opportunities. Examples include: • Occupiers of residential properties; • Visitors to tourist attractions; • Recreational receptors using recreational facilities such as National Cycle Routes, National Trails, and designated long distance footpaths.; and • Recreational receptors using PRoW or viewpoints in nationally or locally designate landscapes.
Medium	Viewers with a moderate interest in their surroundings such as: • Users of schools • Users of outdoor recreational facilities where landscape appreciation is unlikely to be a primary motive; • Local viewpoints • Users of local PRoW.
Low	Viewers with a passing interest in their surroundings such as: • Road or other transport users
Very Low	Viewers with no interest in their surroundings, such as: • People at their place of work.

10. Water Quality

Water Quality – Definitions of Impact Magnitude

Magnitude	Guidelines
High	*Water Quality* Very significant change to key characteristics of the water quality status of the receiving water feature Water quality status degraded to the extent that permanent change and inability to meet Environmental Quality Standards for example likely.
Medium	*Water Quality* Significant changes to key characteristics of the water quality status taking account of the receptor volume, mixing capacity/flow rate etc. Water quality status likely to take considerable time to recover to baseline conditions.

Low	*Water Quality* Noticeable but not considered significant changes to water quality status of receptor water feature. Activity not likely to alter local status to the extent that water quality characteristics change considerably or EQS are compromised. Activities are likely to have an impact for a short time scale (e.g. relative to turnover of water feature) and baseline water quality conditions are maintained.
Very Low	*Water Quality* Although there may be some impact upon water quality status, activities predicted to occur over a short period. Any change to water quality status will be quickly reversed once activity ceases.

Water Quality - Definitions of Receptor Value and Sensitivity

Value and Sensitivity	Guidelines
High	Water Quality Water quality of specific receptor site supports or contributes towards the designation of a nationally important feature (e.g. Bridgwater Bay SSSI). Very low capacity to accommodate any change to current water quality status, compared to baseline conditions.
Medium	Water Quality Water quality of receptor site supports high biodiversity (not designated). Receptor has low capacity to accommodate change to water quality status.
Low	Water Quality Baseline conditions define an environment that has a high capacity to accommodate proposed change to water quality status, due for example to large relative size of receiving water feature and effect of dilution. Baseline water quality status generally poor.
Very Low	Water Quality Specific water quality conditions of receptor water feature likely to be able to tolerate proposed change with very little or no impact upon the baseline conditions detectable.

11. Hydrogeology

Hydrogeology – Definitions of Impact Magnitude

Magnitude	Guidelines
High	*Groundwater* Very significant certain or likely change to key groundwater regime characteristics to the extent that UK and European legislation is contravened. Change in groundwater level, quality or available resource usefulness is chronic, permanent or prolonged significantly beyond the activity causing the change, and irreversible. Permanent loss of aquifer as useful groundwater resource. Changes are spatially extensive beyond the area in which the impact occurred, e.g. drawdown into adjoining areas or contamination down gradient of impact site into adjoining areas.
Medium	*Groundwater* Significant likely change to key groundwater regime characteristics to the extent that UK and European legislation may be contravened. Groundwater quality may be impacted permanently or at least for 10 years. Change in groundwater level, quality or available resource usefulness is prolonged more than two years beyond the activity causing the change, and only reversible after significant remediation activity. Permanent or long term loss of aquifer as useful groundwater resource. Changes are spatially extensive beyond the area in which the impact occurred, e.g. drawdown into adjoining areas or contamination down gradient of impact site into adjoining areas.
Low	*Groundwater* Possibility of noticeable but insignificant changes in groundwater levels or quality for more than two years, or significant changes for more than six months but less than two years, or barely discernible changes for more than two years. Reversible without external action required. Changes confined largely to the area of impact only. No contravention of UK or European legislation.
Very low	*Groundwater* Barely discernible changes in groundwater levels or quality for more than two years, or noticeable but insignificant changes for more than six months but less than two years. Changes confined largely to the area of impact only and reversible without external action. Changes of lower magnitude than baseline seasonal changes. No contravention of UK or European legislation.

Hydrogeology – Definitions of Receptor Value and Sensitivity

With respect to groundwater, value and sensitivity can be most readily defined from the Environment Agency designated aquifer status (Major Aquifer, Minor Aquifer, Non-Aquifer); the presence within the aquifer on and around the development site and of groundwater Source Protection Zones (Inner, Outer, Catchment); and the presence of any other specific groundwater uses (abstraction, baseflow support to surface drainage).

Sensitivity is based on the assessment of intolerance against a benchmark level of change in an environmental factor, and the likely recoverability from change. In order to help define the level of 'Value and Sensitivity', the generic guidance, shown in Table 5, has been adopted for the purposes of this EIA. It is based loosely on the example given in Scottish Natural Heritage (2006)[15]. With specific respect to groundwater, aquifers are more sensitive to changes in quality than level because of the timescales involved in groundwater flow and natural flushing/attenuation of any groundwater quality (contamination) impact.

Value and Sensitivity	Guidelines
High	*Groundwater* Major Aquifer with significant public water supply abstractions. Site is within Inner or Outer Source Protection Zones.
Medium	*Groundwater* Major Aquifer with significant public water supply abstractions. Site is within Catchment Source Protection Zone; or Minor Aquifer with significant water supply abstractions. Site is within Inner or Outer Source Protection Zones.
Low	*Groundwater* Minor Aquifer with water supply abstractions. Site is within Catchment Source Protection Zone.
Very low	*Groundwater* Minor Aquifer without abstractions in area of activity causing potential impact; or Non Aquifer.

12. Socio-Economic

Socio-economic impact magnitude

Impact magnitude	Definition

Impact magnitude	Definition
High	A result that would satisfy some or all of the following criteria: • Have a very adverse/beneficial impact on the function of the resource and/or effect on the well-being of people/groups and/or • Constitute a long-term effect on the baseline conditions (i.e. it would be likely to continue and effectively be permanent and irreversible)
Medium	A result that would satisfy some or all of the following criteria: • Have a moderate adverse/beneficial impact on the function of the resource and/or effect on the well-being of people/groups and/or • Constitute a medium term effect on the baseline conditions
Low	A result that would satisfy some or all of the following criteria: • Have a minor adverse/beneficial impact on the function of the resource and/or effect on the well-being of people/groups • Constitute a short term effect on the baseline conditions
Very low	A result that would satisfy some or all of the following criteria: • Have a slight or no adverse/beneficial impact on the function of the resource and/or • Constitute a very short term/temporary effect on the baseline conditions

In considering the magnitude of impacts on resources and effects on receptors, the following types of questions will be assessed:

Socio-economic impact magnitude - key questions

Impact on Function of Resource and Implications for Receptors:
How will the impact affect the functioning of the resource? To what degree can it absorb the change?
What is the severity/intensity of the impact on people's lives and activities?
Do other disciplines conclude a significant effect on the receptor (such as Landscape & Visual)?
Duration – Temporal Scope
What is the temporal scope of the impact/effect?
Does the impact/effect occur at specific times of the day/year?
For how long does the impact/effect occur?
How regularly does the impact/effect occur?
Is the impact/effect temporary or permanent?

Socio-economic receptor sensitivity

Receptor sensitivity	Definition
High	There are no comparable and accessible alternatives that exist within the relevant catchment area Resource/receptor has limited ability to absorb the change Highly or regularly used and valued resource
Medium	There are limited comparable and accessible alternatives within the relevant catchment area Resources/receptors have limited ability to absorb the change Moderately used and valued resource
Low	There are a moderate number comparable and accessible alternatives exist within the relevant catchment area Resource/receptor are able to relatively easily absorb the change Sparingly or infrequently used and valued resource.
Very low	There are many comparable and accessible alternatives within the relevant catchment area Resource/receptor are able to easily absorb the change Receptor has very limited value and is rarely used

In considering the sensitivity of receptors to an effect, the following types of questions will inform the assessment:

Socio-economic receptor sensitivity - key questions

Capacity to Respond to Loss/Gain for Receptors

What is the receptor's capacity to experience a loss or gain of the affected resource?

Nature of users – are they concentrated in the local area? Are they a specialised interest group? Are they local/ regional/ national/ international? Does this nature then influence their capacity to experience a loss or gain in the affected resource?

Are users concentrated in potentially more sensitive groups, such as people on low incomes, unemployed, older people, children, ethnic minorities, people in poor health etc.

How mobile are the receptors? Eg. are they likely to have access to a car? Do they have any physical constraints on their movement such as walking slowly etc.?

Scarcity/Alternatives for Receptors

What is the scarcity of the affected resource and what is the availability of alternatives? Factors to consider include:

What is the catchment area of the affected resource?

Are there comparable alternative resources available within the relevant catchment area?

How easy is it to replace the resource? Eg. does it have special site requirements that are difficult to replicate or are its locational requirements generic and relatively easily met elsewhere?

What is the spare capacity of the alternative resources and is this potentially available to the users of the affected resource?

What is the likelihood that alternative resources/sites/options will become available?

Number of People Affected/Extent of Use/Value of Resource

What is the spatial scope of the effect (i.e. to help inform judgement on the number of people affected)?

How many people/what proportion of people, are likely to experience the impact?

Generally the greater the number of people which experience an impact the greater the magnitude. But also consider people experiencing an impact as a proportion of the total people in a relevant community and/or group, i.e. if the number of people experiencing an impact is low but the proportion of the relevant population or community is high, then it may be appropriate to consider the magnitude as higher.

Appendix B: Discipline specific guidance for ZOI mapping

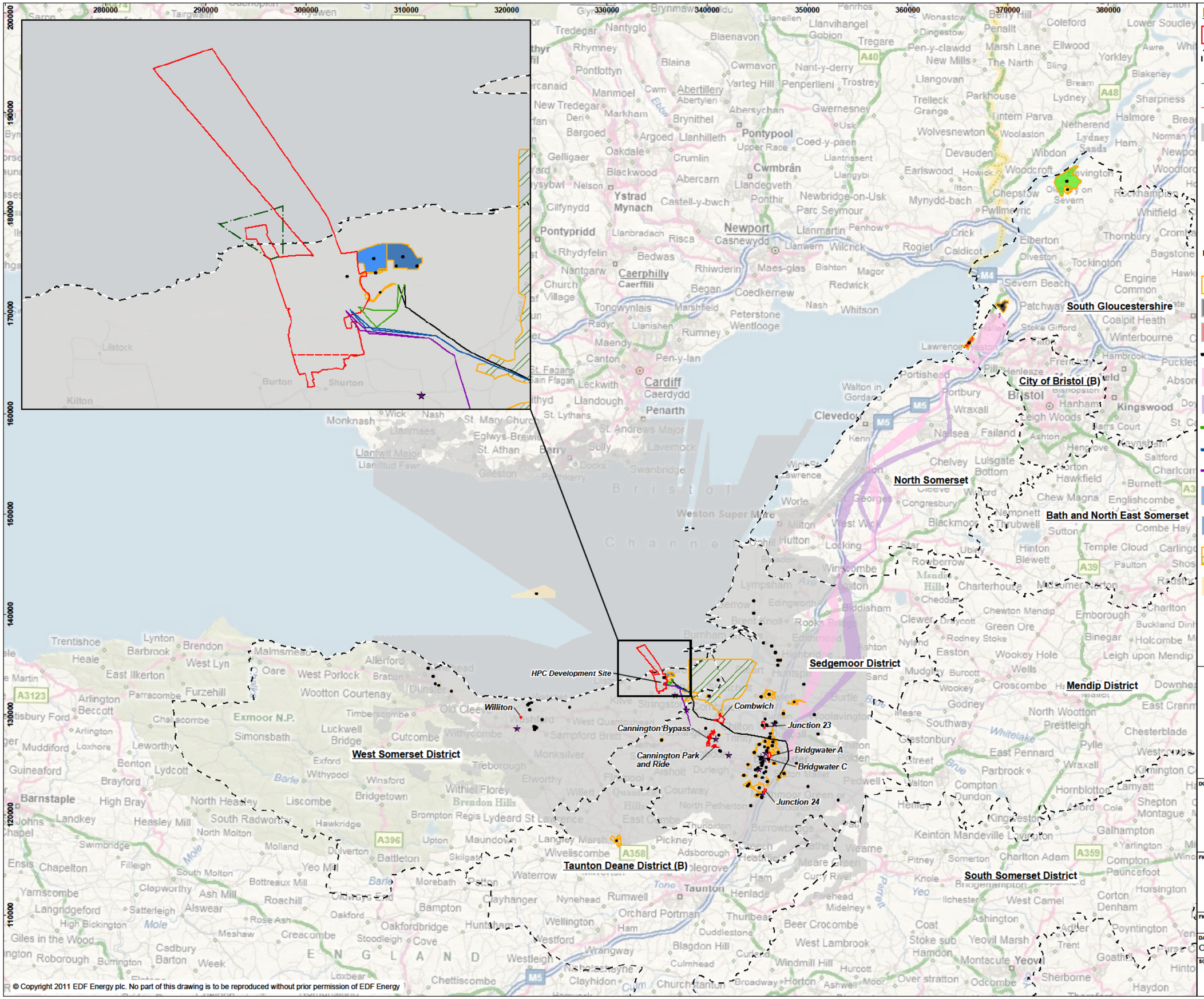
Guidance for the Production of ZOI Maps

Technical Topic Area	Example Parameters	Assumptions etc. (where applicable)
Air Quality	1km radius from proposed development site boundary 600m radius from boundary of any associated development or other project component site 400m either side of all highways used by development traffic	
Noise and Vibration	Noise: 1km from proposed development site boundary 600m radius from boundary of any associated development or other project component site 50 m either side of all highways used by development traffic Vibration: 1km from proposed development site boundary 50 m either side of all highways used by development traffic	
Transport	Agree in advance with the Highways Agency and IACC all transport routes included in the traffic model	
Soil and Land Use	100m from proposed development site boundary 25m from boundary of any associated development or other project component site	The ZOI for soils and land use takes account of processes such as surface runoff and soil erosion, dust deposition or field drainage
Hydrology and Drainage	Catchment areas covering the proposed development and any associated development or component site Surrounding natural surface water receptors (including rivers, streams, ditches)	The surface water ZOIs should be defined to reflect the natural drainage catchments covering the proposed development site and any associated development or component site. This interpretation of these areas should be undertaken using available OS mapping, terrain data and available catchment boundary information.

Technical Topic Area	Example Parameters	Assumptions etc. (where applicable)
	Available Welsh Water sewer maps Natural Resources Wales (formerly the Environment Agency) flood risk maps.	
Terrestrial Ecology	5km from proposed development site boundary 5km from any European Site EIA developments within/adjacent to any SSSI or European Site 500m of any Local Nature Reserve	The extent of each ZOI should be defined according to the sensitivity of the receptor (e.g. wetland receptors may be significantly impacted by developments affecting hydrology within their catchment) and, in respect to mobile species (e.g. bats), the range of the receptor).
Marine Sediments and Water Quality/ Marine Ecology / Coastal Hydrodynamics	5km from proposed development site boundary 5km from any European Site EIA developments within/adjacent to any SSSI or European Site 500m from any Local Nature Reserve	The extent of each ZOI should be defined according to the sensitivity of the receptor (e.g. zones of potential diffusion of chemical species, zones of transport of sediments, the range and routes of mobile species, eg: migratory fish, marine mammals, etc.).
Recreation and Amenity	Recreation and amenity receptors within or adjacent to the proposed development site boundary or any associated development or component site. Note: The ZOI's for Transport, Air Quality, Noise and Vibration, and Landscape and Visual also influence recreation and amenity receptors. The disturbance effects on recreation and amenity assets should be considered within the impact assessment for those parameters.	The direct effect of a development or associated development would occur as a result of physical footprint effects. Indirect effects would arise due to disturbance to the recreation and amenity receptors, which should be examined and assessed within the disciplines that are the source of potential disturbance (i.e. Transport, Air Quality, Noise and Vibration, and Landscape and Visual).
Landscape and Visual	ZOI should be based upon Zone of Theoretical Visibility and field analysis and may be a large area depending on the prominence of the development(s) in the landscape. By way of example the Study area for the HPC Main Site was initially set at 25km from the site, and then adjusted following Zone of Theoretical Visibility (ZTV) analysis and field assessment. Study areas for the AD sites were initially set at 10km from each site, then adjusted following ZTV analysis	ZOI should be based on the combined landscape and visual study areas for each development element e.g. main development site and Associated Development (AD) sites.

Technical Topic Area	Example Parameters	Assumptions etc. (where applicable)
Historic Environment	Parameters for LVIA as described above (relevant to archaeological setting) Site footprint of the development project components and cumulative developments for buried archaeology and historic features	Assumptions for LVIA as above.
Geology and Contaminated Land	500m radius from the proposed development site boundary or any associated development of component site	The maximum distance over which contamination could feasibly migrate to or from the site under extreme circumstances.
Groundwater	Main site ZOI is determined mainly by geology and scale of potential groundwater impact rather than by a fixed distance. This may be associated for example by any major aquifer 500 m radius from the proposed development site boundary or any associated development or component site	

Appendix C: Example Zone of Influence Maps for the Hinkley Point C Project



KEY

- HPC PROJECT COMPONENTS
- DISTRICT BOUNDARY
- TEMPORARY JETTY SEAWARD HARBOUR LIMITS
- SOUTHERN LIMIT CONSTRUCTION ACTIVITY
- HPC PROJECT ZONE OF INFLUENCE
- HIGHWAYS IMPROVEMENT SCHEME

1. A38 BRISTOL ROAD/THE DROVE, BRIDGWATER
2. A39 BROADWAY/A38 TAUNTON JUNCTION, BRIDGWATER
3. BRISTOL ROAD/WYLDS ROAD, BRIDGWATER
4. WYLDS ROAD/THE DROVE, BRIDGWATER
5. A39 SANDFORD CORNER, CANNINGTON
6. M5 JUNCTION 23
7. WASHFORD CROSS, WILLITON
8. JUNCTION IMPROVEMENTS AT CLAYLANDS CORNER
9. HORSE CROSSING ON C182 AT FARRINGDON HILL LANE
10. CANNINGTON TRAFFIC CALMING MEASURES
11. HUNTWORTH ROUNDABOUT

NON-HPC PROJECT DEVELOPMENTS

- CENTRE POINTS
- BOUNDARY (WHERE KNOWN)
- SEVERNSIDE GAS-FIRED POWER STATION (SITE ID 56)
- THE BRISTOL PORT DEEP SEA CONTAINER TERMINAL (SITE ID 1)
- NATIONAL GRID TRANSMISSION INFRASTRUCTURE (SITE ID 2A)
- NATIONAL GRID TRANSMISSION INFRASTRUCTURE - HINKLEY POINT C CONNECTION ROUTE CORRIDOR OPTION 1 (SITE ID 2B OPTION 1)
- NATIONAL GRID TRANSMISSION INFRASTRUCTURE - HINKLEY POINT C CONNECTION ROUTE CORRIDOR OPTION 2 (SITE ID 2B OPTION 2)
- NATIONAL GRID TRANSMISSION INFRASTRUCTURE - OPTION FOR ZG ROUTE (SITE ID 2C)
- NATIONAL GRID TRANSMISSION INFRASTRUCTURE - OPTION FOR VQ ROUTE (SITE ID 2D)
- NATIONAL GRID TRANSMISSION INFRASTRUCTURE - OPTION FOR ZZ ROUTE (SITE ID 2E)
- HINKLEY POINT A NUCLEAR POWER STATION (SITE ID 3)
- HINKLEY POINT B NUCLEAR POWER STATION (SITE ID 4)
- STEART COASTAL MANAGEMENT PROJECT (SITE ID 5)
- AGGREGATE EXTRACTION LICENCE AREA 472 (SITE ID 8)

EDF ENERGY

DOCUMENT:
HINKLEY POINT C PROJECT
ENVIRONMENTAL STATEMENT
VOLUME 11 - CUMULATIVE IMPACT ASSESSMENT

FIGURE TITLE:
HPC PROJECT ZOI

FIGURE NO:	REVISION:
FIGURE 2.2(A)	01
DATE: OCT 2011	DRAWN: J.B
SCALE: 1:350,000@A3	

SCALE BAR: 0 3 6 9Kilometres

Appendix D:Addition to standard CIA approach for socio-economics

In addition to the generic CIA approach there is a need to detail the specific requirements in relation to the socio-economic discipline, specifically in relation to interactive impacts across developments.

Compiling information: Interactive impacts across cumulative developments

Having identified the list of projects that should be considered using the temporal and spatial scoping process there is a need to combine the socio-economic impact information from the projects to understand the timing and scale of cumulative impacts.

The first stage in this process is to compile a table of projects with the net employment effects during the construction, operational and decommissioning (principally Wylfa) phases where this information is available from the individual projects.

At the same time any further detail on the workforce profiles for each project should be compiled into one document. Key data that will help determine the socio-economic impacts will include:

- Phasing of workforce in terms of overall numbers/occupations by year
- Extent of workforce which are in-migrant workers to the travel to work area and as such will create additional demand on services and infrastructure
- Extent to which in-migrant workers will move with their wider households/families

Where this information is not provided in the cumulative development(s) ESthe use of standard assumptions based on existing evidence and precedents could be used to determine this information and allow the cumulative impact to be assessed.

This information can then be used to provide an assessment of the population impacts and subsequent impacts on social infrastructure. These impacts can be determined through the use of relevant service delivery standards for different services which are provided by relevant statutory bodies and can also be identified through previous research.

Appendix E: Metadata for socio-economic baseline

Theme	Indicator	Source	Latest release	Frequency of release	Lowest geography available
Business and Economy	Total Number of People Employed - employees and employment	ONS, Business Register and Employment Survey	2011	Annual	LSOA
Business and Economy	Number of Employees in Businesses	ONS, UK Business: Activity, Size and Location	2012	Annual	Local Authority
Business and Economy	Total Number of People Employed - sectoral breakdown	ONS, Business Register and Employment Survey	2011	Annual	LSOA
Business and Economy	Average Turnover	ONS, UK Business: Activity, Size and Location	2012	Annual	Local Authority
Business and Economy	Business Demography - active, births, deaths	ONS, Business Demography	2011	Annual	Local Authority
Business and Economy	Minority Ethnic Group Led Businesses	BIS, Small Business Survey MEG led Business Boost	2010	-	Regional
Workforce and Skills	Economic Activity	ONS, Census of Population	2011	Ten years	LSOA
Workforce and Skills	Economic Activity	ONS, Annual Population Survey / StatsWales	Mar-13	Quarterly	Local Authority
Workforce and Skills	Employment Rate	ONS, Census of Population	2011	Ten years	LSOA
Workforce and Skills	Employment Rate	ONS, Annual Population Survey / StatsWales	Mar-13	Quarterly	Local Authority
Workforce and	Unemployment Rate	ONS, Census of Population	2011	Ten years	LSOA

Theme	Indicator	Source	Latest release	Frequency of release	Lowest geography available
Skills					
Workforce and Skills	Unemployment Rate	ONS, Annual Population Survey / StatsWales	Mar-13	Quarterly	Local Authority
Workforce and Skills	Benefit Claimants	Department for Work and Pensions - Benefit Claimants/ working age clients for small areas	Feb-13	Quarterly	LSOA
Workforce and Skills	Occupational Profile - resident and workforce	ONS, Census of Population	2011	Ten years	LSOA
Workforce and Skills	Occupational Profile - resident and workforce	ONS, Annual Population Survey	Mar-13	Quarterly	Local Authority
Workforce and Skills	NVQ Qualifications	ONS, Census of Population	2011	Ten years	LSOA
Workforce and Skills	NVQ Qualifications	ONS, Annual Population Survey	Mar-13	Quarterly	Local Authority
Workforce and Skills	Pupils Attaining 5 GCSEs at Grade A* to C	DfE, GCSE and equivalent attainment by pupil characteristics in England	2012	Annual	Local Authority
Workforce and Skills	Not in Education, Employment or Training	DfE, NEET statistics	Q4 2012	Quarterly	Regional
Workforce and Skills	Average Annual Gross Earnings	Annual Survey of Hours and Earnings	2012	Annual	Local Authority
Workforce and Skills	Gross Disposable Household Income	ONS/ StatsWales	2011	Annual	NUTS3 / Sub-regional
Health and Disability	Average Life Expectancy	APHO, Life Expectancy	2012	Annual	Local Authority
Health and	People with Not Good health	ONS, Census of Population	2011	Ten years	LSOA

Theme	Indicator	Source	Latest release	Frequency of release	Lowest geography available
Disability					
Health and Disability	Early Death from Heart Disease and Stroke	APHO, Early Deaths from Heart Disease and Stroke	2010	Annual	Local Authority
Health and Disability	Early Death from Cancer	APHO, Early Deaths from Cancer	2010	Annual	Local Authority
Health and Disability	ESA and Incapacity Benefit Claimants	Department for Work and Pensions - Benefit Claimants/ working age clients for small areas	Feb-13	Quarterly	LSOA
Health and Disability	Limiting Long Term Illness	ONS, Census of Population	2011	Ten years	LSOA
Population	Size of Resident Population	ONS, Census of Population	2011	Ten years	LSOA
Population	Size of Resident Population	ONS, Mid Year Population Estimates	2012	Annual	Local Authority
Population	Population Past Trends	ONS, Mid Year Population Estimates	2012	Annual	Local Authority
Population	Projected Population	ONS, Subnational Population Projections	2012	Annual	Local Authority
Population	Percentage of Pupils with English as an Additional Language	DfE, Number and Percentage of Pupils by First Language	2012	Annual	Local Authority
Population	Stated Religion	ONS, Census of Population	2011	Ten years	LSOA
Population	Social Grade	ONS, Census of Population	2011	Ten years	LSOA
Population	Car Ownership	ONS, Census of Population	2011	Ten years	LSOA
Population	Distances Travelled to Work	ONS, Census of Population	2011	Ten years	LSOA
Population	Method Travelled to Work	ONS, Census of Population	2011	Ten years	LSOA
Housing	Tenure	ONS, Census of Population	2011	Ten years	LSOA
Housing	Household type	ONS, Census of Population	2011	Ten years	LSOA
Housing	Occupancy Rating	ONS, Census of Population	2011	Ten years	LSOA

Appendix F: Anglesey socio-economic context: Issues for consideration in EIA/CIA

In undertaking the EIA and subsequent CIA it is important to understand the specific context in Anglesey and the broad view and understanding of major development projects to be considered in the short to medium term. Here the identification of major pinch points in relation to economic and social infrastructure is of particular importance. In the following section we outline some of the key issues in this respect along with a summary of some of the major developments that could feature within the EIA/CIA process.

Project locations and scale

On the basis of information held at the current time it is clear that the spatial focus for significant impacts will be in North West Anglesey with a particular focus on Holyhead and the immediate area.

As noted within the EIA and CIA methodologies the employment impacts are likely to be felt across the wider travel to work area as are the subsequent impacts on social infrastructure and services. Having said this the in-migrant workforce who will be adding to the overall population and creating the additional demand on services will most likely be located close to the major developments identified.

Previous analysis[15] shows that the greatest impact in terms of the construction workforce will be created by the Wylfa Nuclear new build project. At peak construction the maximum requirement has been estimated at up to 6000 workers. This is likely to have a significant impact on the functioning of the labour market, housing market and social infrastructure and services as well as the wider community but the scale and extent of these impacts will ultimately depend upon the accommodation and workforce strategy which the developer adopts. At the current time however there are no firm plans from Horizon as to their proposed accommodation strategy for construction workers.

One of the possible options for workers accommodation is included in the current Penrhos Leisure Village application which proposes to use the accommodation provided to temporarily house approximately 60% of the estimated Wylfa NNB construction workforce. If this does happen the impacts on the population and existing infrastructure of the area are likely to be significant at the local level.

At the same time existing data provided by the Penrhos Village applicant within its current application, along with other independent analysis, identifies significant impacts in terms of

[15] • Energy Island and Enterprise Zone, reassessment of Legacy targets, benefits and outcomes (URS & ESYS Consulting 2012)

employment creation and infrastructure impacts for the actual construction and permanent operation of the development. Again this confirms the focus of impacts within and close to Holyhead.

Lateral Power's proposals for the Biomass Power Plant and Eco Park at the Anglesey Aluminium site also predict significant employment impacts which again will create additional demand for wider infrastructure and services in a socio-economic context.

The Holyhead Waterfront development is also a large scale project with employment impacts estimated in the region of 350 permanent jobs. The development has planning permission but construction has not yet started on site.

Wylfa decommissioning is currently scheduled for 2015 and a revised ES to accompany the updated application for decommissioning has been made. The decommissioning phase of Wylfa is likely to overlap with several projects given the long time frame involved.

With many of the above projects there are uncertainties as to their timing and the detail of their impacts in socio-economic and other environmental contexts. This makes the process of cumulative impact assessment more difficult. However by following the generic CIA approach and using the precedents of which developments are considered to be cumulative on a case by case basis, IACC and developers alike have a transparent view of what is expected.

Pinch points

On the basis of information available at the current time some of the key socio-economic, issues in an EIA and CIA context relate to:

- Construction workforce – cumulative employment impacts across projects are the primary issue for socio-economic topic, the overall scale of the requirement for Wylfa NNB alongside the potential overlap with a number of projects whose timescales and phasing are unclear means that there is a risk of projects, particularly of a smaller scale/local nature running short of labour, as this is utilised by larger projects as identified

- Other labour market impacts – mismatch between skills/occupational demand level and the supply available – previous impact assessment work for a number of projects in the table above shows that demand for skills outstrips supply and suggests a pressing need to continue efforts to up-skill the existing workforce and/or rely on in-migrant labour for development projects in the construction phase.

- Community infrastructure – health care (GPs/Dentists) and leisure services will be put under additional strain with the projected influx of workers, particularly given the higher risk nature of the work/workforce profile and likelihood of this group accessing leisure and recreation provision. Existing work shows that these

services are already under pressure with limited numbers of GPs/dentists and large numbers of population per provider relative to existing service standards.

- Housing – dependent on project phasing and developer accommodation strategies there could be significant impacts on the local housing and tourism accommodation market during the construction phases of cumulative developments.

Further evidence

There is a range of existing evidence and data available which provides useful socio-economic context. This includes the metadata presented in Appendix D which incorporates the key indicators provided by Welsh Government (e.g. Economic and labour market profile). In addition previous work commissioned by IACC also provides background on the expected economic impacts factoring in some of the potential cumulative developments identified in this paper. Other useful information includes

1. Energy Island and Enterprise Zone, reassessment of Legacy targets, benefits and outcomes (URS & ESYS Consulting 2012)

2. Regional Economic and Labour market profiles, Statistics Wales

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21. Occasional paper number 1 – research to improve the assessment of additionality (2009) BIS

22. Additionality guide: 3rd edition (2008) English Partnerships

23. Additionality and Economic Impact Assessment Guidance Note (2008) Scottish Enterprise

24. Green book – appraisal and evaluation in central government (undated) HM Treasury

25. Energy Island and Enterprise Zone, reassessment of Legacy targets, benefits and outcomes (URS & ESYS Consulting 2012)

26. identified in the emerging Wylfa New Nuclear Build (NNB) Supplementary Planning Guidance (SPG) and the Anglesey draft Joint Local Development Plan (JLDP) - with appropriate weight being given as they move closer to adoption) recognising that information on any relevant proposals may be limited.

CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL

www.ynysmon.gov.uk
www.anglesey.gov.uk

Ministry of Defence

Defence Infrastructure Organisation

Hannah Pratt
The Planning Inspectorate
Major Applications and Plans
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Safeguarding Department
Statutory & Offshore

Defence Infrastructure Organisation
Kingston Road
Sutton Coldfield
West Midlands
B75 7RL

Tel: +44 (0)121 311 3818 **Tel (MOD):** 94421 3818
Fax: +44 (0)121 311 2218
E-mail: DIO-safeguarding-statutory@mod.uk
www.mod.uk/DIO

Your Reference: EN010007
Our reference: 10035584

08 April 2016

Dear Hannah,

MOD Safeguarding – SITE OUTSIDE SAFEGUARDING AREA

Proposal: Wylfa Newydd Nuclear Power Station EIA Scoping Notification

Location: Wylfa Newydd Nuclear Power Station, Anglesey

Grid Ref: 235033, 393444

Planning Ref: **EN010007**

Thank you for consulting the Defence Infrastructure Organisation (DIO) on the above EIA Scoping Notification. This application relates to a site outside of Ministry of Defence (MOD) statutory safeguarding areas. We can therefore confirm that the MOD has no safeguarding objections to this proposal.

Whilst we have no safeguarding objections to this proposal, we request that any structures above 50 metres AGL are charted and fitted with aviation warning lighting.

In the interests of air safety, the mast should be fitted with a minimum intensity 25 candela omni directional flashing red light or equivalent infra-red light fitted at the highest practicable point of the structure.

The height of the development will necessitate that aeronautical charts and mapping records are amended. Defence Infrastructure Organisation (DIO) Safeguarding therefore requests that, as a condition of any planning permission granted, the developer must notify UK DVOF & Powerlines at the Defence Geographic Centre with the following information prior to development commencing:

a. Precise location of development.
b. Date of commencement of construction.
c. Date of completion of construction.
d. The height above ground level of the tallest structure.
e. The maximum extension height of any construction equipment.

f. Details of aviation warning lighting fitted to the structure(s)

You can e-mail this information to the Defence Geographic Centre to dvof@mod.uk, or post it to:

D-UKDVOF & Power Lines
Geospatial Air Information Team
Defence Geographic Centre
DGIA
Elmwood Avenue
Feltham
Middlesex
TW13 7AH

I trust this adequately explains our position on this matter, however should you have any questions regarding this matter please do not hesitate to contact me.

Yours sincerely

[redacted]

Laura Nokes
Assistant Safeguarding Officer

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Nick Dexter
DCO Liaison Officer
Land & Business Support

Nicholas.dexter@nationalgrid.com
Tel: +44 (0)7917 791925

www.nationalgrid.com

14th April 2016

Dear Sir/Madam,

WYLFA NEWYDD NUCLEAR POWER STATTION – SCOPING CONSULTATION

I refer to your letter dated 21st March 2016 in relation to the above proposed application for a Development Consent Order for the Wylfa Newydd Project. Having reviewed the Scoping Report, I would like to make the following comments:

National Grid infrastructure within / in close proximity to the order boundary

Electricity Transmission

National Grid Electricity Transmission has a high voltage electricity overhead transmission line and two underground cables which lie within and in close proximity to the proposed order limits. These overhead lines and cables form an essential part of the electricity transmission network in England and Wales and include the following:

- 4ZA (400kV) overhead line route – Pentir to Wylfa (circuits 1&2)
- Wylfa 1 (132kV) underground cable
- Wylfa 2 (132kV) underground cable

The following substation is also located within or in close proximity to the proposed order limits:

- Wylfa (400kV) Substation

I enclose plans showing the routes of our overhead lines and the location of our substation within the area shown in the consultation documents.

The following points should be taken into consideration:

- National Grid's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset

- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. National Grid recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for "overhead line clearances Issue 3 (2004) available at:

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

http://www.nationalgrid.com/uk/LandandDevelopment/DDC/devnearohl_final/appendixIII/appIII-part2

- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.

- Further guidance on development near electricity transmission overhead lines is available here: http://www.nationalgrid.com/NR/rdonlyres/1E990EE5-D068-4DD6-8C9A-4D0B06A1BA79/31436/Developmentnearoverheadlines1.pdf

- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (**www.hse.gov.uk**) Guidance Note GS 6 "Avoidance of Danger from Overhead Electric Lines" and all relevant site staff should make sure that they are both aware of and understand this guidance.

- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum "sag" and "swing" and overhead line profile (maximum "sag" and "swing") drawings should be obtained using the contact details above.

- If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances.

- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or "pillars of support" of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation ("pillar of support") drawings can be obtained using the contact details above

- National Grid Electricity Transmission high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide National Grid full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with National Grid prior to any works taking place.

- Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented.

Gas Transmission

National Grid has no high pressure gas transmission pipelines located within or in close proximity to the proposed order limits.

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Gas Distribution

National Grid has no gas distribution assets located within or in close proximity to the proposed order limits.

Further Advice

We would request that the potential impact of the proposed scheme on National Grid's existing assets as set out above and including any proposed diversions is considered in any subsequent reports, including in the Environmental Statement, and as part of any subsequent application.

Where any diversion of apparatus may be required to facilitate a scheme, National Grid is unable to give any certainty with the regard to diversions until such time as adequate conceptual design studies have been undertaken by National Grid. Further information relating to this can be obtained by contacting the email address below.

Where the promoter intends to acquire land, extinguish rights, or interfere with any of National Grid apparatus protective provisions will be required in a form acceptable to it to be included within the DCO.

National Grid requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection. All consultations should be sent to the following: box.landandacquisitions@nationalgrid.com as well as by post to the following address:

The Company Secretary
1-3 The Strand
London
WC2N 5EH

In order to respond at the earliest opportunity National Grid will require the following:

- Draft DCO including the Book of Reference and relevant Land Plans
- Shape Files or CAD Files for the order limits

I hope the above information is useful. If you require any further information please do not hesitate to contact me.

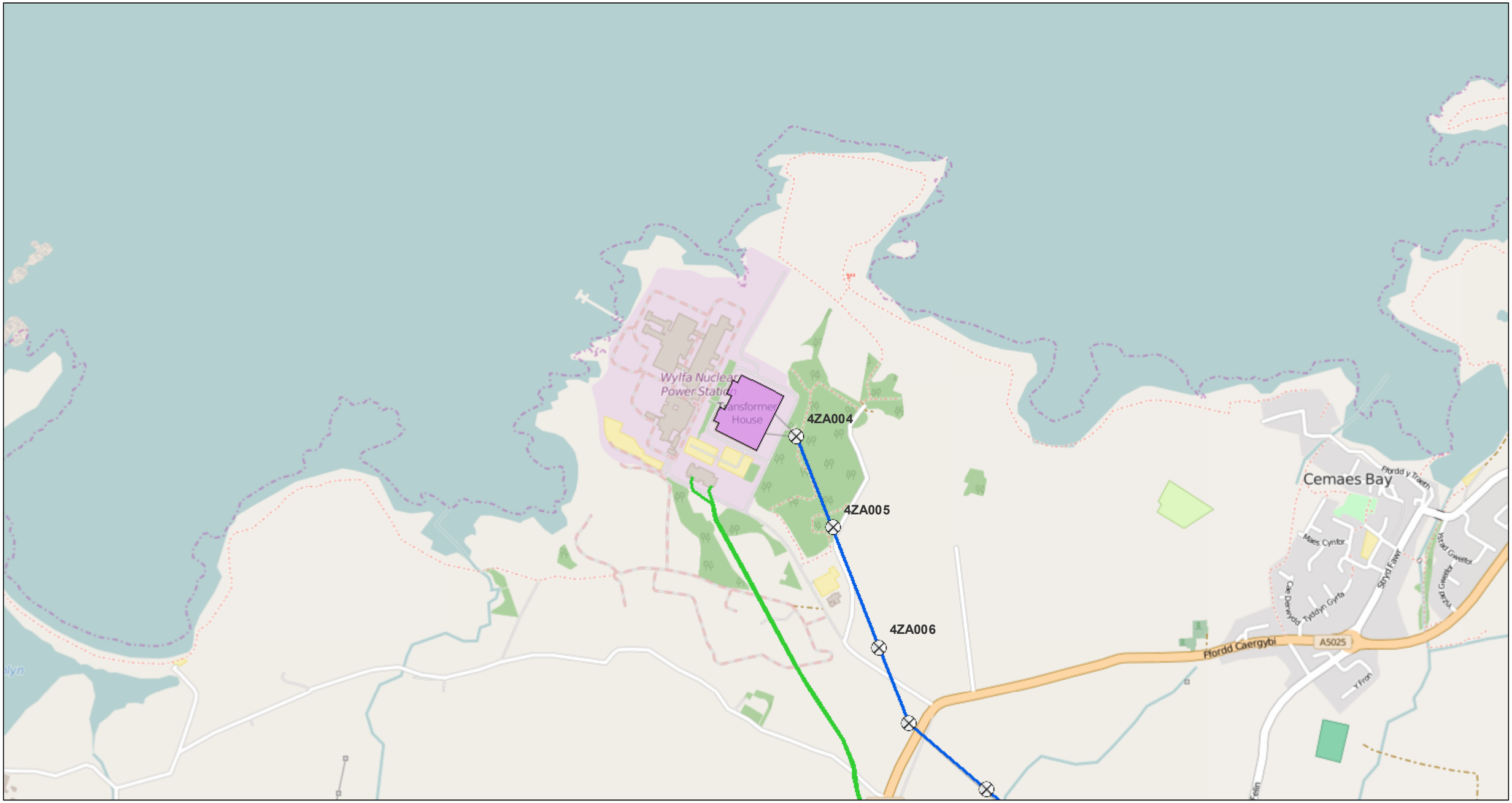
The information in this letter is provided not withstanding any discussions taking place in relation to connections with electricity or gas customer services.

Yours Faithfully

[redacted]

Nick Dexter.

NGET's assets - Wylfa



April 14, 2016

- Substation_Site
- Towers

LINE

- 400
- CABLE
- Joint Bay

1:18,056

0 0.225 0.45 0.9 mi

0 0.35 0.7 1.4 km

Cyfoeth Naturiol Cymru
Natural Resources Wales

Ein cyf/Our ref: SH39/BG/CAS-17022-S7Z0
Eich cyf/Your ref: 160321_EN010007_3756884

Llwyn Brain,
Parc Menai,
Bangor, LL57 2BX

Ebost/Email: bryn.griffiths@cyfoethnaturiolcymru.gov.uk
Ffôn/Phone: 03000 65 3000

Ms Hannah Pratt
The Planning Inspectorate (on behalf of Secretary of State)
3/18 Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

18 Ebrill / April 2016

Annwyl / Dear Ms Pratt,

PLANNING ACT 2008 (AS AMENDED) AND THE INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 (AS AMENDED) – REGULATIONS 8 AND 9

RE: SCOPING CONSULTATION – Application by Horizon Nuclear Power Wylfa Limited for an Order Granting Development Consent for the Wylfa Newydd Project

Thank you for your letter dated 21 March 2016 consulting NRW on EIA Scoping with respect to a proposed Development Consent Order application for the Wylfa Newydd Project.

The comments contained in this letter comprise NRW's response to this scoping consultation under the Planning Act 2008 (as amended) and the Infrastructure Planning (Environmental Impacts Assessment) Regulations 2009 (as amended).

Please note that our comments are without prejudice to any comments we may subsequently wish to make when consulted as part of a formal pre-application consultation, or during the submission of more detailed information or on the Environmental Statement. At the time of any planning application there may be new information available which we will need to take into account in making a formal response to the Planning Inspectorate (PINS) / Secretary of State (SoS).

We note the information provided within the Scoping Report will be subject to further update and revision and that further detail of the various technical studies undertaken will be provided in the Stage 2 consultation and within the final Environmental Statement. On this basis, NRW reserves the right to make such further comments and representations during the course of the pre-application process, as may be required. The comments included in Annex I below are made purely in respect of the scoping consultation and are without prejudice to any future comments which may be provided by NRW.

Please do not hesitate to contact Bryn Griffiths should you require any further assistance.

Yours sincerely

Richard Ninnes
Head of Ecosystems Planning and Partnerships, North & Mid Wales

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ANNEX I

Regulatory and Policy Background

1. NRW note Section 2.2 on Nuclear Regulatory Context which states that "*At section 2.7, NPS EN-6 establishes that in coming to their conclusions on the DCO application, the examining authority and Secretary of State should act on the assumption that the relevant nuclear licensing and permitting regimes will be properly applied and enforced, and directs that they should not duplicate the consideration of matters that are in the remit of the relevant regulators*."

2. NRW notes that NPS EN-6 also sets out expectations relevant under Other Legislative Requirements (2.3) such as Environmental Permitting (2.3.1) e.g. the expectation that applicants will demonstrate Best Available Techniques to minimise the impacts of cooling water discharges when applying for a permit.

3. With regard to section 2.3 Other Legislative Requirements, NRW confirms it is expecting to receive a variety of applications to carry out different activities as described in all sub sections.

4. Section 14.2.2 of the Scoping report states that the Wylfa Newydd Development Area is located in an area currently exempt from groundwater abstractions. NRW has made the applicant aware of changes to water abstraction licensing exemptions in England and Wales and advised the applicant that these changes are likely to result in the need to obtain an abstraction licence. We refer the applicant to: https://consult.defra.gov.uk/water/water-abstraction-licensing-exemptions

5. With regards to section 2.3.2 Marine Licensing, NRW notes the applicant's recognition that the marine licence applications will require EIA to be carried out under the Marine Works (Environmental Impact Assessment) Regulations 2007 as amended by the Marine Works (Environmental Impact Assessment) (Amendment) Regulations 2015. On that basis NRW recommends the applicant submit a request for an EIA scoping opinion - under the Marine Works (Environmental Impact Assessment) Regulations 2007 as amended - to NRW's Marine Licensing Team.

6. The Welsh Government is in the process of developing the first Welsh National Marine Plan and shared an initial draft of the Plan in 2015. NRW recommends that the Welsh National Marine Plan is considered by the applicant.

Approach to Environmental Impact Assessment

7. Section 7.3.3 of the report discusses Habitats Regulations Assessment and we note the statement "*Horizon will provide the necessary information and analysis for the competent authority to undertake the HRA in tandem with EIA*". NRW advise that the applicant should consult NRW on the preparation of their No Significant Effects Report (NSER) or Habitats Regulations Assessment Report (HRA Report). We refer you to our comments in points 40-41 below for further advice in relation to HRAs.

8. NRW advises that a holistic approach should be undertaken to the cumulative assessment that covers the whole lifecycle of the development. The assessment of the potential cumulative and in-combination effects of the Wylfa project with other existing or reasonably foreseeable projects is likely to be complex and will be required to be set out in the ES. The applicant should set out in the ES where impacts from consequential or cumulative development have been identified, and how it is intend to assess these effects in the ES. Where uncertainty remains about Wylfa project details, the applicant should assume worst case scenario. Where there are associated works that are subject to separate EIA the cumulative effects from the various associated works themselves and the main project should be assessed. NRW advise that a completed transboundary screening matrix should also be completed. Our detailed comments with regard to Cumulative Impacts are set out in points 125 – 127 below.

Air Quality

9. Section 8.2.1 refers to European sites including SACs and SPAs that will be considered. The ES should also consider Ramsar sites for which UK government policy is to treat as Natura 2000 sites.

10. Section 8.4 refers to statements made in NPS EN-1 in relation to noise and vibration. We assume that these references are included in error in this section on air quality.

11. With regard to dust, we note the statement that 200mg/m^2/day is considered as the threshold at which there may be impacts on amenity. We consider that this would also be an appropriate threshold with regard to sensitive vegetation.

12. The models used to undertake the air quality assessments will need to be updated to include the final design details and a more accurate reflection of the Proposed Activities, prior to completion of the ES and HRA.

13. The project has the potential to affect air quality and have in-direct effects on protected sites (e.g. SSSIs, SACs, SPAs, Ramsar sites) during both the construction and operational phase (due to both air pollution and dust). We advise that the ES should fully assess impacts of air pollution and dust on protected sites. NRW would expect the ES to include an assessment of the amount of predicted pollution from the proposal against the relevant nitrogen critical loads and relevant pollution critical levels for any designated sites that may be affected. NRW can provide further advice with respect to the critical load levels.

Noise and Vibration

14. Section 9.1.1 identifies sensitive receptors as human receptors, ecological receptors, and infrastructure receptors. NRW advise that the ES in support of the DCO should fully assess both construction and operational impacts of noise and vibration on ecological receptors and on the special qualities of the Anglesey Area of Outstanding Natural Beauty (AONB). Please note, NRW does not comment on assessment of impacts on human receptors with respect to noise and vibration with regard to the ES in support of the DCO, and we recommend that PINS liaise with the local authority for further advice.

15. We note that users of the Wales Coast Path will be considered, this being within the "open-air amenities" receptor.

16. Section 9.1.1 refers to the key ecological receptor as being Ynys Feurig, Cemlyn Bay and the Skerries SPA which has been designated due to its importance to four species of breeding terns. NRW agree that this is a key receptor and we refer you to our comments on protected sites below.

17. NRW also consider that noise and vibration has the potential to impact on mobile features of other protected sites (e.g. chough using the site, which are linked to Glannau Ynys Gybi SPA). We advise that the ES should clearly set out how it assesses impacts on mobile features of other national (SSSI) and European protected sites (SAC/SPA/Ramsar).

18. As detailed in our comments under Terrestrial and Freshwater Ecology, there are protected species on site. These include species protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended). Bats are particularly at risk of disturbance from noise and vibration, and bat compensation roosts have been located on site as part of building demolitions on site that have been completed. The ES should clearly set out how the impacts of noise and vibration on protected species have been assessed and detail any required mitigation and/or compensation. As detailed below, where a European protected species is likely to be affected, a development may only proceed under a licence issued by NRW having satisfied the three requirements set out in the legislation. One of these requires that the proposal demonstrates that there is no likely detriment to the maintenance of the 'favourable conservation status' of the local populations of species concerned.

19. We note that underwater noise and vibration effects on ecological receptors are considered under the Marine Environment chapter. We therefore refer you to our comments below (point no. 114). NRW can provide pre-app advice on the proposed underwater noise and vibration modelling and assessment methodology, in advance of submission of the ES.

Landscape and Visual

20. Section 10.2.4 identifies the Anglesey Area Outstanding Natural Beauty (AONB) as a key receptor. The Wylfa Newydd Development Area is located adjacent and partly within the Anglesey AONB and NRW consider that the Wylfa Newydd project has the potential to have significant adverse effects on the special qualities of the AONB.

21. NRW advise that the ES should fully consider impacts on the special qualities of the AONB. An assessment of impacts on the AONB will need to consider the physical and visual effects upon the area's Natural Beauty - the scenic quality, distinctiveness, sense of place and special qualities of the area. The AONB management plan sets out special qualities that it seeks to conserve and enhance. These are often elements, features and attributes that the landscape contains, which contribute to character. The ES will need to demonstrate through its landscape and visual assessment and development

proposals how it has positively addressed the special qualities of the AONB and explain the iterative design process taken to minimising adverse effects.

22. We note and agree with the statement in section 10.1 that a similar approach should be undertaken when assessing the Off-Site Power Station Facilities.

23. We note and agree with the statement in section 10.3.1 that the Wales Coast Path should be noted as a sensitive receptor in relation to landscape and visual effects.

24. Given the scale of the proposal and sensitive landscape and seascape location, we consider that the draft principles for the Landscape and Environmental Master Plan (LEMP) need to develop and flow from a landscape character approach so that factors contributing to landscape aesthetics (e.g. designing with the landscape form, scale, pattern of landcover, habitat potential, colour and architectural options) are developed as one scheme through the analysis of the key viewpoints.

25. There is no mention of assessment of lighting and night time assessments. NRW consider that the operational phase, and particularly the construction phase, has the potential to cause light pollution. NRW advise that night time assessments on visitors to the AONB should be undertaken. There is potential for people to be at Cemlyn Bay within the AONB at around dusk time, as a result of activities such as experiencing sunsets and wildlife watching. Understanding the baseline experience of lighting is necessary to the lighting strategy for the development.

Terrestrial and Freshwater Ecology

- *Protected Sites*

26. Table 11.1 of the report lists statutory protected sites within the study area and which may potentially be impacted by the works. These sites include European sites (e.g. Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites) protected under the Conservation of Habitats and Species Regulations 2010 (as amended) and nationally protected sites (e.g. Sites of Special Scientific Interest (SSSI)) protected under the Wildlife and Countryside Act 1981 (as amended). NRW advise that the proposal also has the potential to affect terrestrial statutory protected sites outside this study area e.g. chough populations on site are considered to be linked to the Glannau Ynys Gybi SPA.

27. We note that section 16.2.8 in the Marine Environment chapter lists protected sites of relevance to the marine environment that may be impacted, including sites not currently listed in Table 11.1 e.g. Bae Lerpwl/Liverpool Bay SPA. For clarity, NRW consider it would be useful to include all protected sites that will be considered in the ES together in a single table.

- *Protected Sites: Tre'r Gôf SSSI and Cae Gwyn SSSI*

28. Tre'r Gôf SSSI is located within the site and has the following special features: Lime rich wetland with associated plant communities characterised by blunt flowered rush, black bog rush and great fen sedge, and the nationally scarce marsh fern. Cae Gwyn

is located adjacent, and partly within, the Wylfa Development Area boundary and has the following special features: an area of acid wetland. Both SSSIs have the potential to be impacted by changes in hydrology/hydrogeology and changes in water quality.

29. Section 11.3.2 identifies the potential impacts to Tre'r Gôf and Cae Gwyn SSSIs during the construction works. NRW consider that the operational phase may also affect the functioning of Tre'r Gôf SSSI if, for example, the reactor foundations need regular dewatering. NRW advise that both construction and operational impacts on both Cae Gwyn and Tre'r Gôf SSSI are fully assessed in the ES.

30. The proposed works have the potential to have in-direct impacts on both Cae Gwyn and Tre'r Gôf SSSI through alterations to groundwater/surface water flows and water quality. NRW advise that sufficient hydrological/hydrogeological information should be provided in the ES as part of the DCO submission to demonstrate whether the proposal will damage the SSSI interest. NRW has provided advice and guidance to the applicant on the hydrological and hydrogeological monitoring work to be undertaken. As detailed in previous correspondence to the applicant, it is unfortunate that flumes and loggers installed in 2010 did not provide continuous data so as to provide reliable hydrological/hydrogeological data over multiple years and thereby provide confidence in predicted impacts on the SSSI. NRW consider that hydrological/hydrogeological data should normally be collected for at least 2 years to overcome seasonal variations. NRW can provide further advice on the expected hydrological/hydrogeological information expected to inform the ES.

31. NRW has previously advised that the applicant should avoid damage to protected sites, including Tre'r Gôf SSSI which is at particular risk in view of the works proposed. The ES should detail appropriate mitigation measures for avoiding and reducing impacts on Tre'r Gôf SSSI. Where damage to the SSSI features cannot be avoided, the ES should demonstrate how all alternatives have been fully considered. NRW consider that due to the limited hydrological/hydrogeological data that may be available to inform the ES, the applicant may not be able to demonstrate no damage to the SSSI, even if all reasonable mitigation measures are implemented. In July 2015, the applicant initiated a 'SSSI Compensation Technical Advisory Group' to advise on the development of potential compensation strategy for offsetting possible impacts to Tre'r Gôf SSSI. With consideration of the above, where damage to the SSSI is considered likely despite full consideration of avoidance and mitigation measures, then the ES should specify possible compensation measures (including measures to ensure long-term site security and management) in order to offset the damage.

- *Protected Sites: Cemlyn Bay SAC & Cemlyn Bay SSSI*

32. We note thatparts of the work will be located within the catchment leading to Cemlyn Cemlyn Bay SSSI/SAC. The features of Cemlyn Bay SSSI/SAC include the coastal lagoon and perennial vegetation of stony bank. Cemlyn lagoon is a saline lagoon and supports a diverse range of species, which are sensitive to pollution and/or nutrient inputs. NRW consider that the proposed works, including earthworks and mounding, within the catchment has the potential to have significant effects on the SSSI/SAC. The ES should provide sufficient information, including appropriate mitigation where necessary to demonstrate how impacts to the Cemlyn Bay SSSI/SAC will be avoided.

33. As detailed in point no. 87 below, works in the marine environment have the potential to indirectly affect Cemlyn Bay SAC through alterations to coastal processes and the functioning of the shingle ridge at Cemlyn. The ES should provide sufficient information, including appropriate mitigation where necessary to demonstrate how in-direct impacts to the Cemlyn Bay SSSI/SAC will be avoided.

- *Protected Sites: Ynys Feurig, Cemlyn Bay and the Skerries SPA / Proposed Anglesey Terns pSPA*

34. The features of the SPA include the four tern species: Roseate, sandwich, arctic and common tern. The scale and duration of construction works on site indicate that the works have the potential to disturb tern colonies at Cemlyn Bay and impact on tern foraging and commuting. We advise that disturbance to terns (including from light, movement, noise and vibration) should be fully assessed in the ES. The ES should propose and deliver appropriate mitigation and/or compensation schemes, to ensure that the works are not detrimental to the Favourable Conservation Status of tern populations.

35. We note that the operational phase also has the potential to impact on the SPA e.g. through impacts on the terns' food source. This is discussed further in the Marine Environment section below.

36. There is also the potential for in-direct impacts on sandwich terns, and occasionally other terns, through impacts (loss of feeding areas) on black-headed gulls. Sandwich terns typically nest sympatrically with black-headed gulls, as the gulls help with the defence of the colony against predators which helps with nesting success (Eglington and Perrow, 2014). NRW also consider that works in the marine environment have the potential to generate sediment plumes that may affect foraging through reduction in visibility. We advise that these impacts are considered in the ES.

37. Section 16.2.8 refers to the proposed Gogledd-orllewin Ynys Mon/Northwest Anglesey SPA. Welsh Ministers have requested NRW to consult on a proposed extended Ynys Feurig, Cemlyn Bay and the Skerries SPA which includes tern foraging areas. Please note the name of the proposed site within NRW's consultation is Anglesey Terns SPA. At this consultation stage it is Government policy that the proposed sites are treated as a designated SPA. The proposed SPA should be included within Table 11.1. We therefore advise that the ES should assess any significant effects on this proposed SPA.

- *Protected Sites: Glannau Ynys Gybi / Holy Island Coast SPA*

38. Table 11.2 states that chough breed within the study area, and are present on site throughout the year. Chough populations are mobile and are considered to be linked to the Glannau Ynys Gybi SPA – we therefore advise that this SPA is included in Table 11.1. The proposed works has the potential for adverse impacts on the chough population through disturbance (during breeding and while foraging) and loss of foraging habitat. The ES should assess the likely impacts from disturbance and/or loss of foraging areas and, where required, should propose and deliver appropriate

mitigation and/or compensation schemes to ensure that the works are not detrimental to the maintenance of the Favourable Conservation Status of chough populations.

- *Protected Sites: North Anglesey Marine SAC*

39. As with the proposed Anglesey Terns SPA referred to above, Welsh Ministers have requested NRW to consult on a proposed SAC for harbour porpoise. At this consultation stage it is Government policy that the proposed sites are treated as designated SPAs/SACs. We therefore advise that the ES should assess any significant effects on harbour porpoise which are a proposed feature of the proposed North Anglesey Marine SAC. Further advice is provided in our comments on the Marine Chapter below. The proposed SAC should be included within Table 11.1 for completeness.

40. Section 16.2.8 refers to the proposed Gogledd-orllewin Ynys Mon/Northwest Anglesey SAC. However, the name of the proposed site within NRW's consultation is North Anglesey Marine SAC.

- *Habitat Regulation Assessment (HRA)*

41. Please note that, as the proposal may have implications for SAC/SPA/Ramsar sites, the Secretary of State (SoS) will need to carry out a test of likely significant effects (alone and in-combination) under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (as amended) before determining the planning application. We can help the SoS reach a conclusion on likely significant effects. If that assessment concludes there is likely to be a significant effect, we can also advise on the further, appropriate assessment that would be required under the Regulations. We remind you that, as a competent authority for the purposes of the 2010 Regulations, the SoS must not normally agree to any plan or project unless it is sure beyond reasonable scientific doubt that it will not adversely affect the integrity of a SAC, SPA or Ramsar site.

42. The ES will need to identify impact pathways for protected sites, clearly assess the possible levels of impact and, where impacts are likely, should provide full details of appropriate mitigation measures to address those impacts. NRW can provide further advice with regard to predicted impacts or on the suitability of mitigation measures. As mentioned above, NRW advise that the applicant should consult NRW on the preparation of their No Significant Effects Report (NSER) or HRA Report (i.e. Statements to Inform HRA).

43. In September 2015, the applicant proposed the adoption of a non-statutory, voluntary approach that is broadly analogous to, and applies the principles of an 'Evidence Plan'. NRW welcomes the applicants proposals for a formal mechanism to agree up front the information the applicant needs to supply to PINS as part of a DCO application and to help ensure compliance with the Conservation of Habitats and Species Regulations 2010 (as amended).

- *Protected Species*

44. Table 11.2 provides a summary of survey results with respect to protected species. Bats, great crested newts (GCNs) and otters are European Protected Species (EPS) protected under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Where a European protected species is likely to be affected, a development may only proceed under a licence issued by NRW having satisfied the three requirements set out in the legislation. One of these requires that the proposal demonstrates that there is no detriment to the maintenance of the 'Favourable Conservation Status' (FCS) of the species concerned.

45. Water voles, red squirrels, and Schedule 1 listed birds are protected under the Wildlife and Countryside Act 1981 (as amended).

46. Section 11.4.2 states that the baseline environmental information for protected species is sufficient to inform the EIA for the DCO works. NRW is unable to agree with this statement at this point however, NRW can provide further advice once in receipt of baseline information.

47. Section 11.4.2 states that uncertainty remains as to the status of GCNs on site and that "…*Further survey work is required to confirm this status and would be completed prior to submission of an environmental statement, should land access issues be resolved*". If land access issues are not resolved then NRW advise the applicant to seek further advice on the approach to assessment that should be undertaken.

48. Section 11.4.2 states that the EIA will focus on species valued as low, medium or high which include all the protected species referred to in our point 44 – 45 above, with the exception of red squirrels. We note that red squirrel surveys are proposed in 2016. If survey results indicate that red squirrels may be affected by the works, then red squirrels should be covered in the EIA.

49. With the exception of red squirrels (see comment above), NRW accept the statement in section 11.4.2 that those species given a negligible value, or where baseline surveys have concluded a likely absence from site, will not be included within the EIA. Please note, this should be reviewed should new information come to light regarding their status on site.

50. NRW advise that the ES should clearly set out any effects on protected species and, where adverse effects are identified, should propose and deliver appropriate mitigation and/or compensation schemes to ensure the Favourable Conservation Status of the affected species is maintained.

51. With regard to Ecological Compliance Audits, we advise that the ES includes provisions concerning ecological compliance audit requirements. We anticipate that the EIA will propose key performance indicator for assessing compliance with proposed method statements, planning conditions and licence conditions.

- NERC Act 2006 & Local Interests

52. Please note that NRW has not considered or commented on possible effects on all species and habitats listed in section 42 of the Natural Environment and Rural Communities (NERC) Act 2006, or on the Local Biodiversity Action Plan or other local natural heritage interests (including reptiles). Please note however that the ES will need to include an assessment of these interests.

- *Biosecurity*

53. We consider biosecurity to be a material consideration owing to the nature and location of the proposal. NRW is aware that a number of terrestrial and aquatic Invasive Non-Native Species (INNS) are present on site. In this case, biosecurity issues concern invasive non-native species (INNS) and diseases. The proposed works have the potential to cause both the introduction and spread of INNS. We therefore advise that the provisions of the ES include a Biosecurity Risk Assessment, which will be implemented during all phases of the proposal including construction and operation of the facility. This information will also be required to inform the HRA We anticipate that the Biosecurity Risk Assessment will detail:
    a. measures that will be undertaken to control and eradicate INNS within the area of works;
    b. measures or actions that aim to prevent INNS being introduced to the site for the duration of construction phase of the scheme.

Radiological Issues

54. NRW note that the applicant is planning to submit an application for an environmental permit for disposal of radioactive substances. Requirements under that regime will ensure the company has sufficient resources and management arrangements to ensure the impacts of discharges from the site are minimised and dose to the public are kept as low as reasonably achievable. We note there is a specific chapter in the Scoping report on the assessment of radiological issues. NRW agree with this approach and advise that the EIA should include a chapter on radiological issues, setting out potential effects and proposed mitigation measures.

55. NRW note the statement in Section 12.1 that states "*the main potential radiological considerations associated with the Generating Station are doses to the public and biota which may arise during operation and decommissioning. The construction activities at the site will not generate radioactive waste or discharges and as such there is no further consideration of construction in this chapter."* NRW advise that there should be consideration of the potential for mobilisation of radionuclides during construction works on site and within the marine environment.

56. The ES should assess, through appropriate modelling, the transfer of radionuclides present in the gaseous and aqueous radioactive wastes through the environment. The assessments should predict the dispersion of the radionuclides in the air or the sea, their transfer to, and accumulation in, other environmental media.

57. The Scoping report considers impacts as a result of discharges (asserted to be below 20uSv) but makes no further reference to shine impacts. Shine should be explicitly considered.

58. The radiological impacts on non-human species as a result of liquid and atmospheric discharges from the power station should be assessed with respect to the four broad habitat groups that are representative of the range of habitats in the locality of the power station (i.e. marine, freshwater, terrestrial and coastal). This assessment should use appropriate modelling to support the ES and HRA

Soils and Geology

- *Contaminated Land & Pollution Prevention*

59. We note that the EIA Scoping report makes reference to the Environmental Management Plan, Site Waste Management Plan, Materials Management Plan. NRW advise that the ES submitted as part of the DCO application should include sufficient information to assess the likely impacts and should also provide details of the mitigation measures to be undertaken (and which form part of these plans/strategies) i.e. only referencing the required plans/strategies in the ES will not be sufficient. The applicant should include sufficient detail in the ES and HRA to demonstrate that it has considered all the potential impacts and has provided details of mitigation, including pollution prevention strategies.

60. With regard to the above point, NRW advise that the impacts of waste generated during both the operational and construction phase should be fully assessed in the ES. The applicant should be aware that there are a limited number of permitted waste sites within the vicinity of the Project and that this should be considered when assessing the type and volume of waste that will be generated. The applicant should also be aware that a lack of waste options may also impact on the applicant's transport strategy and assessments of traffic volumes.

61. We note in section 13.4 that more detailed onshore ground investigations are being undertaken to further inform the assessment of potential effects on soils and geology. For the avoidance of doubt, NRW advise that assessment of impacts arising from disturbing Areas of Potential Concern (APC) should be based on surveys characterising the APCs, and should not be reliant on desktop studies. The assessments will also inform the waste strategy and management. Please note that APCs need to be considered for disposal as waste not managed. The data collected from the investigations will refine the understanding of baseline conditions and the assessments undertaken should inform the design of the Proposed Activities. The above investigatory approach should follow that recommended in CLR11. NRW can provide further advice to the applicant on receipt of the conclusions of the investigations, including analysis results and risk assessments. Upon receipt of this we will be able to advise further.

62. In addition to the point above, NRW advises that the applicant should undertake the following:

a. Follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination.
b. Follow the Environment Agency document 'Guiding Principles for Land Contamination' for the type of information that we require in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, such as human health.
c. Follow the Groundwater protection: Principles and practice (GP3)

- *Sites of Geological Importance*

63. Based on current proposal, it is considered unlikely that geological SSSIs or Geological Conservation Review (GCR) sites will be affected by the works. However, the applicant should be aware that NRW is undertaking a review of GCR sites in the area, including of the areas currently identified as Regionally Important Geological Sites (RIGS) along the north west coastline of the site.

64. With regard to the existing RIGS sites, we recommend that you liaise with with Anglesey Geopark (GeoMon), Gwynedd & Mon RIGS Group, and relevant geologists from British Geological Survey, National Museum Wales for further advice.

Surface Water and Groundwater

- *Flood Risk*

65. Section 14.2.5 of the Scoping report refers to areas of the site that are considered to be at risk of fluvial or tidal/coastal flooding. We advise that the opening paragraph in section 14.2.5 should be expanded in the ES so that the tidal flood risk is clearly stated due to the site's close proximity to the sea.

66. Section 14.2.6 of the Scoping report states that the "*TAN15 methodology has been followed to provide a preliminary flood consequence assessment (FCA) which has been supported by modelling to predict the potential for flooding under various scenarios. The FCA will be updated as more information becomes available*". The ES/DCO application should demonstrate, through the submission of an FCA, that the consequences of flooding can be managed over the lifetime of the development. Prior to completing the FCA, the applicant is advised to contact NRW for additional advice and information on preparing an FCA which is appropriate to the scale and nature of the development.

67. In relation to point 66 above, the applicant should be aware that the TAN15 zone C outlines are based on NRW's fluvial/tidal extreme flood outlines (flood zone 2) for the 0.1% annual exceedance flood. Fluvial flood zones have only been modelled using a technique for catchments larger than 3km^2 in area.

68. It is accepted that these fluvial (and pluvial) risks are based on the existing topography of the area and will need to be updated/re-modelled to establish the risks and mitigation measures required once the proposed landform has been re-profiled (and the presence of any buildings/structures have been included). The re-profiling works will significantly

change drainage patters locally, and these will need to be engineered/mitigated to manage the risks. These will need to be demonstrated in the next stages of flood risk assessments (namely the Nuclear Safety Flood Risk Assessment and the TAN15 FCA).

69. Section 14.2.6 of the scoping report states the predicted tidal flood level of 13.3m AOD for the 0.01% AEP – this event is over and above events which are stipulated in TAN15. We note that such probability events are required as part of the nuclear safety case (NPS EN-1 and EN-6).

70. We note that one of the outfalls is through a culvert at Porth Wylfa beach. Further assessments should be carried out on the outfall and the consequence of failure (blockage/collapse) at this location for fluvial and pluvial events, including safe flood routing etc.

71. NRW advise that the applicant seeks further advice from NRW with regard to the above assessments.

- *Water Resources*

72. Appendix C, paragraph 4.11 refers to the Infrastructure Planning Commission's original Scoping Opinion comments that information should be provided in the ES on the Wylfa water supply. However, we note that no information is presented in this Scoping report to indicate that this information will be provided in the ES. The Wylfa Newydd project will require increased water supply during the construction and operational phase. Wylfa Newydd is located in the Dŵr Cymru Welsh Water (DCWW)'s water resources zone of North Eryri Ynys Môn (NEYM) which covers the whole of Anglesey (Ynys Môn) and the mainland adjacent to the Menai Straits (North Eryri). Based on DCWW's Water Resources Management Plan (2015-2040), this zone is surplus of 4.47Mega litres per day (Ml/d) for 2015-16. However this surplus was projected to decrease gradually to 0.42 Ml/d by 2023/14. From 2024/25 onwards there will not be any water availability in this resource zone under the dry year scenario. The ES should acknowledge the project's overall water demand and the impacts on water supply.

73. Appendix C, paragraph 4.11 also advises that the ES should include details of how sewage will be treated along with the potential impact of any discharges on the environment. The current Scoping report does not provide any information to indicate that such information will be provided. NRW note that both the construction and operational phase has the potential to generate large volumes of sewage. NRW advise that the potential environmental impact of any sewage discharges on the environment (including protected sites) should be fully assessed in the ES.

- *Surface Water*

74. As highlighted in points 28-31 above, impacts during the construction and operational phase of Wylfa Newydd has the potential to affect the hydrology on site, with in-direct impacts on protected sites within the study area. We note section 14.4.2 which states that the potential to affect these sensitive receptors will be assessed in the ES and the

need for any mitigation identified. As highlighted in point 31, there may also be a requirement for compensatory measures.

75. As highlighted in point 30 above, current hydrological monitoring work is ongoing. NRW consider that hydrological data should normally be collected for at least 2 years to overcome seasonal variations. NRW can provide further advice on the expected hydrological information expected to inform the ES.

- *Groundwater*

76. As highlighted in point 28-31 above, impacts during the construction and operational phase of Wylfa Newydd has the potential to have adverse impacts on groundwater dependent terrestrial ecosystems, particularly protected sites within the study area. We note section 14.4.2 which states that the potential to affect these sensitive receptors will be assessed in the ES and the need for any mitigation identified. As highlighted in point 31, there may also be a requirement for compensatory measures.

77. As highlighted in point 30 above, current hydrogeological monitoring work is ongoing. NRW consider that hydrogeological data should normally be collected for at least 2 years to overcome seasonal variations. NRW can provide further advice on the expected hydrogeological information, including the conceptual hydrogeological model, expected to inform the ES.

78. Section 14.2.2 states that the Wylfa Newydd Newydd Development Area is located in an area currently exempt from groundwater abstractions. Please see point no. 4 above with regard to possible changes to the groundwater abstraction exemptions.

- *Water Framework Directive (WFD)*

79. The applicant should also be aware that consideration must be given as to whether the proposed works as part of the DCO application could prevent any mitigation measures or actions intended to achieve Good Ecological Status (GES) / Good Ecological Potential (GEP) from being implemented, which could result in the water body failing to meet its objectives. Where a scheme is considered to cause deterioration, or where it could contribute to a failure of the water body to meet GES or GEP, then an Article 4.7 assessment would be required.

80. The applicant has informed NRW that a Preliminary WFD Compliance Assessment report is to be prepared in support of all planning applications and, where required, a detailed WFD Compliance Assessment Report will be undertaken. The ES should include a WFD Compliance Assessment report and NRW advise the applicant seek further advice from NRW on the preparation and completion of this report.

81. NRW advise that the applicant should update Water Framework Directive Water Body references to reflect changes made in cycle 2 of River Basin Planning (2015-2021). Please see link to Water Watch Wales for maps of the waterbodies and associated data: http://waterwatchwales.naturalresourceswales.gov.uk/en/

82. With regard to fluvial geomorphology, we note in section 14.2.4 that site-based assessment of the watercourses are ongoing in 2016. NRW can provide further advice with regard to the expected baseline assessments to inform the ES. NRW can also provide further advice with regard to mitigation where any watercourses are affected.

Coastal Processes and Coastal Geomorphology

83. Section 2.1.2 of the Scoping report describes the Welsh Planning Context where TANs have been considered relevant to the potential environmental impacts of the developments. An omission from the scoping report is TAN 14 Coastal Planning (1998) http://gov.wales/topics/planning/policy/tans/tan14/?lang=en. Of particular relevance is where TAN 14 describes the sediment cells and sub-cells that should be considered during planning – NRW advise that this is considered essential for a development of this size and nature.

84. Section 15.1 states that due to the location (being wholly terrestrial) of the preferred sites for the Off-Site Power Station Facilities, it is proposed to scope out the Off-Site Power Station Facilities from coastal processes and coastal geomorphology assessment. NRW accept this statement however, we advise that this should be reviewed if any alternative sites are put forward.

85. Section 15.2 of the report states "*an area within a 5km radius from the Power Station Site was used to inform site selection and survey extent; this distance was defined based on knowledge of the mixing zones, modelling and professional judgement".* NRW is aware that the 5km zone of impact is based on professional judgement and on initial hydrodynamic modelling undertaken in 2009, which provided an initial indication of the extent of the dispersion of heat from the cooling water discharge. The coastal processes assessment will need to include the effects from all the offshore structures on hydrodynamics and sediment movement, not just the cooling water extent, and be of high enough resolution to identify any subtle but important effects. NRW advise that the study area should be defined by the zone of impact (which may potentially be considerably beyond 5km) from the effects of structures on hydrodynamics and sediment transport. Please note, professional judgement will need to be backed by evidence/data.

86. NRW consider it essential the study area is based on current design detail and scope in all projects with N2K status in the sediment sub cell area until evidence is presented to scope them out. Section 15.4.1 and section 16.4.1 both state the study area being 5km and tidal influence being 20-25km. NRW would expect to see studies out to the tidal excursion area with asymmetry being taken into account to understand the baseline conditions and future forecasts with structures in place. The sediment sub cell will encompass the tidal excursion boundary and NRW advise that this is the starting point for an impact assessment.

87. Section 15.2.1 refers to the relevant receptors, including Cemlyn Bay SAC, where the features include the coastal lagoon and perennial vegetation of stony bank. The ES should fully assess the effects of the marine works (during both construction and operational phase) on sediment processes and the likely effects on the shingle ridge which is critical to the functioning of the Cemlyn Bay SSSI/SAC and is also critical to

the functioning of the SPA as the nesting site. These assessments will also be required to inform the HRA that the SoS will need to undertake.

88. Section 15.3 refers to disruption of sediment transport processes during installation and dismantling of the temporary breakwaters and MOLF. NRW understand that the breakwaters and MOLF will be permanent – this should be clarified in the ES. NRW advise that the effects of permanent structures, as well as the construction works proposed, should be listed as a potential effect and should be modelled and assessed. NRW would expect to see any structures (Cooling Water System (CWS), breakwaters and the MOLF) entering or altering the existing marine and/or coastal environment to be assessed for impacts and/or changes to hydrodynamic or sediment movement during construction/operation and decommissioning, both near and far field effects. This information should be clearly set out in the ES and HRA.

89. Section 15.3 which lists potential effects does not mention possible requirements for dredging during both the construction and operational phase. NRW advise that plume effects and dredge disposal for both construction and maintenance dredging be investigated thoroughly.

90. Specific survey methods have been undertaken to characterise the coastal hydrodynamics and coastal geomorphology studies. NRW will be able to provide advice on the methods, data, and outputs through further discussions and consultations.

91. The Scoping report states that a Rochdale envelope approach will be used. NRW advise that clarity is required as to how this is to be implemented in the marine environment.

92. Section 15.3 of the report states "*The application of good practice in the construction of the MOLF and breakwater will reduce the predicted magnitudes of residual effects and mitigation through the design process should reduce the footprints of the structures to a minimum, thereby minimising potential effects during operation*." Further development of the concept presented needs working up; the steeper the breakwater the greater the change in hydrodynamics and may also impact biodiversity interests and mitigation considered on the breakwater. Options should be presented at the detailed design stage.

93. NRW advise a high resolution study (modelling and field campaign) is conducted around Cemlyn Lagoon / Bay. NRW are unable to concur with the minor adverse assessment based on the current level of information. The Scoping report states that the applicant will model the expected changes to sediment transport depending on the final design chosen for the intake and any breakwaters. The further studies listed in section 15.4.2 (Tidal flow modelling, sand transport modelling (including bed shear stress) and sediment plume dispersion modelling) are welcomed and will aid assessment. As mentioned, NRW cannot concur with any impact assessment until further studies have been completed. NRW advise that the applicant models changes in hydrodynamics, such as incident wave reflection, current speed and direction off the breakwaters, MOLF and CWS, not just sediment transport. We advise that a model run with the chosen configuration of offshore structures is run at the earliest convenience

to understand the potential impacts and distance that changes may occur, thus possibly needing to follow an iterative approach and change model size and resolution depending on model outputs. NRW has provided advice and guidance to the applicant with regard to marine modelling methodology, however, we advise that further discussions are required to confirm that the modelling methodology is adequate before completing the associated assessments and ES/HRA.

The Marine Environment

94. Section 16.1 states that the issues relating to the marine environment relate entirely to the main Power Station Site as none of the Off-Site Power Station Facilities in the DCO application are likely to affect coastal or marine water. NRW consider that this is likely to be the case however, this should be reviewed once more detailed information is available with regard to the sites and the works proposed.

- *Marine Water Quality*

95. As explained above in relation to coastal processes, NRW has provided advice and guidance to the applicant with regard to marine modelling methodology, however, we advise that further discussions are required with regard to the modelling methodology. For example, the hydrodynamic modelling for the thermal plume has not yet been agreed with NRW and we have yet to provide comment on calibration and validation studies. As advised above, NRW look forward to providing further advice to the applicant with regard to the marine modelling methodology in order to ensure that the modelling outputs are reliable and to ensure that the associated assessments and the ES /HRA are fit for purpose.

- *WFD (Marine)*

96. We refer you to our comments above (points 79 – 82) for our general comments with regard to WFD and which are not fully reiterated here.

97. The Scoping report does not mention that Cemaes Bay is a European designated Bathing Water, located approximately 3.5 – 4 km to the east. The impact on bathing water quality should be considered when looking at impacts on freshwater and marine sites, both during construction and the operation of the proposed facility. As well as being directly vulnerable to bacteria in wastewater (e.g. sewage and contaminated/sediment runoff), any additional sediment loading may contain bacteria that could impact on compliance. The scale and length of construction works in the marine environment has the potential to affect water quality e.g. dredging has the potential to cause mobilisation of sediments and any associated contaminants. NRW advise that impacts on the Cemaes Bay Bathing Water during the construction and operational phase are fully assessed within the ES and the WFD Compliance Assessment report, and appropriate mitigation specified in the ES.

98. As mentioned in point no. 89, NRW advise that plume effects and dredge disposal for both construction and maintenance dredging be investigated thoroughly.

- *Phytoplankton and Zooplankton*

99. By design, the construction of the MOLF and breakwaters will create a sheltered area of water within Port-y-pistyll. We note that further modelling work is to be completed in order to assess the effect of the structures on hydrodynamics and the potential for changes in water quality. We advise that plankton communities are also considered with any physicochemical (temperature/irradiance/hydrological) changes that may occur and how this may impact upon plankton. The potential increase in local water temperature combined with the construction of an area of slack water may result in undesirable increased algal growth and this should be considered with further hydrodynamic modelling of the breakwaters. With regard to the above impacts on plankton, the ES should also consider the 'knock-on' effects on key species within the associated marine food chain. This information will also be required to inform the HRA.

- *Marine Benthic Habitats*

100. Figure 16.1 shows the marine environment study area where marine environmental surveys have concentrated on a topic study area within a 5km radius of the Power Station Site (with additional reference sites further afield to the east and west). This study area is based on professional judgement and on initial hydrodynamic modelling which provided an initial indication of the extent of the dispersion of heat from the cooling water discharge from the Power Station using the previous reactor technology. We note that details, such as the cooling water volume, is still to be confirmed and that further modelling work is to be undertaken. NRW advise that it should be ensured that the study area adequately covers the area expected to be impacted by the work (during construction and operation). NRW can provide further advice to the applicant on the modelling work to be undertaken prior to completion.

101. Section 16.2.1 states that survey work to date has identified a number of habitats, including areas of rocky reef communities, but that no species with conservation protection have been recorded in the habitat surveys. As detailed in NRW's response to the applicant on the PAC1 (Stage 1) consultation, subtidal benthic surveys have found *Sabellaria spinulosa* in grab samples and from video surveys, and highlights the possibility that the biogenic *Sabellaria spinulosa* reef habitat reef may be present, though the extent of the habitat is unclear. As an Annex I habitat (under the Conservation of Habitats and Species Regulations 2010 (as amended) and Section 42 habitat (NERC Act 2006), NRW advise that it should be ensured that any possible reef locations within the benthic impact zone have been fully investigated and impacts clearly set out in the ES.

102. Section 16.3 outlines the potential for direct habitat loss beneath the footprint of the marine and intertidal elements of the Power Station. However, NRW consider that there is likely to be loss and/or modification of habitat associated to construction activities (e.g. dredging and blasting) within the whole marine element of the Wylfa Newydd Development Area, and not only under the direct footprint of the marine structures themselves. We advise that the ES should include clear differentiation between direct and indirect habitat loss and habitat alteration for all aspects of the marine elements work. The ES should consider the impacts of changes to the hydrodynamic regime on

benthic habitat during the construction phase (due to the length and scale of the works) and operational phase (as a result of the marine structures in place).

103. Annex 1 Rocky reef (including intertidal rocky reef if contiguous with the subtidal) has not been considered as part of the current assessment and ought to be assigned a value of medium along-side Rock pool 'special interest' features. NRW have a requirement to report on the quality and extent of Annex 1 habitats outside of sites and therefore this feature needs to be recognised in the current proposal.

104. NRW recommend early discussions with the applicant on the breakwater design (rock type, slope, architecture etc) in terms of biodiversity enhancement measures such as rockpools and reducing the likelihood of colonisation by non-native species. Post application of enhancement measures can be more costly than incorporation of such measures from the outset (i.e. planning stage).

- *Marine Fish*

105. The ES should include detail on the proposed screening and fish protection systems (including fish deterrents and return systems). As well as the fish species found, the fish protection system should also be informed by details of the approach velocity and volumes as well as the design itself. NRW advise that impacts on all Section 42-listed (NERC Act 2006) fish species and migratory fish are considered in the ES. As mobile features, impacts on fish linked to SACs should be assessed in order to inform the HRA.

106. NRW consider that species such as herring and sandeels are examples of fish species that may be at particular risk of being affected by impingement. These species are an important food source for tern species, which are a feature of the nearby Ynys Feurig, Cemlyn Bay and The Skerries SPA. As fish are an important food source of species which are features of European sites (e.g. terns and harbour porpoise), information on the fish protections systems will be needed to inform the HRA. Impacts on fish that are food sources of features of European sites should be assessed in the ES.

107. The presence of the breakwater would provide a shallow and sheltered area which may cause fish to be attracted into and congregate within the sheltered area. Some fish species that migrate around the coast, such as sea trout and eels (European eels are protected under the Eel Regulations 2009), may also be caught up in this semi enclosed area. Fish may also be chased in by predatory fish and mammals. These effects would be likely to increase the amount of fish being affected by impingement. In addition, once the breakwaters are constructed, there could be a change in the types of fish present in the area due to changes in the flows. We advise that these effects are investigated and considered in the ES. NRW can provide further advice with regard to the expected assessments.

108. NRW advise that the ES should provide a comprehensive assessment of how the results of the baseline fish and plankton monitoring (including entrapment studies) relate to the actual predicted effects of the proposed development when considering all of the design elements (e.g. intake design, velocity, screens, fish return system, presence of breakwaters etc) as well as the coastal hydrodynamic and water quality

elements. The ES should bring all these elements together in order to inform the likely effects of the project.

109. Section 16.2.4 refers to the marine fish surveys undertaken to inform the ES. NRW advise that sufficient baseline information should be collected to inform both the ES and HRA. NRW can provide further advice with regard to the information collected and the assessments proposed.

- *Marine Mammals*

110. We note that data on marine mammals have been collected through a combination of incidental sightings observed during surveys for other topic areas (boat based and land based surveys), and other datasets collected as part of other projects in North Anglesey. NRW has previously advised the applicant that sufficient information exists to describe or characterise the marine mammals in the area. However, the data may not allow an evidence-based assessment of likely environmental effects on marine mammals from the project because a quantitative baseline of data for the pathways presented is not available. NRW can provide further advice to the applicant with regard to baseline information collection and the associated assessments, including for HRA purposes.

111. Section 16.2.5 refers to the high degree of connectivity around the Welsh coast with regard to marine mammals. For marine mammals, we advise that the scale of the relevant marine mammal management unit is used as the basis for screening in marine mammal SAC sites and activities/operations for the in-combination/cumulative impact assessment (http://jncc.defra.gov.uk/pdf/Report_547_webv2.pdf). For example, we consider the Pembrokeshire Marine SAC should be screened in for assessment in the HRA Screening. The three welsh seals SACs should all be screened in for assessment in the HRA Screening given the known and demonstrated connectivity between these sites and Anglesey. The connectivity and movements of seals is such that all sites within the South and West England and Wales grey seal management unit (which includes the Irish Sea, Celtic Sea, and English Channel) should be included in the HRA Screening (e.g. Lundy SAC, Isles of Scilly Complex SAC etc). Irish sites along the east coast should also be included. We therefore advise that Table 21.3 on "*Reasonably foreseeable future projects long-list and scoping*" should be based on the above advice with regard to mobile features.

112. As mentioned above, Welsh Ministers have requested NRW to consult on proposed SACs for harbour porpoise. At this consultation stage it is Government policy that the proposed sites are treated as designated SPAs/SACs. We therefore advise that the ES should assess any likely significant effects on harbour porpoise which are a proposed feature of the proposed North Anglesey Marine SAC and two other welsh relevant pSACs (West Wales Marine and Bristol Channel Approaches pSACs). These other proposed harbour porpoise SACs are within the Celtic and Irish Seas Management Unit for harbour porpoise and therefore should be screened in for the HRA.

113. Please note, all cetaceans are protected under the Wildlife and Countryside Act 1981 (as amended) and are European Protected Species (EPS) under the Conservation of

Habitats and Species Regulations 2010 (as amended). Where an EPS is likely to be affected, a development may only proceed under a licence issued by NRW, having satisfied three requirements set out in the legislation. One of these requires that the proposal demonstrates that there is no detriment to the maintenance of the 'favourable conservation status' of the populations of species concerned.

114. The proposed marine works have the potential to generate significant noise and/or vibrations that has the potential to disturb marine mammals. It is typical to assess impact of noise in terms of noise propagation models to determine worst case areas of ensonification with Permanent Threshold Shift, Temporary Threshold Shift and behavioural disturbance contours, and potential barrier effects. Standard noise Mitigation, as per JNCC (2010) guidelines on mitigation for piling, should be utilised and assessed in the EIA. NRW look forward to providing further advice with regard to the underwater noise modelling and assessment methodology.

115. CWS intakes should be assessed against possible entrapment of marine mammals. Mitigation options (e.g. screens, acoustic deterrent devices) should be clearly set out in the ES.

- *Marine Birds*

116. The Wylfa Newydd Development Area is located in the vicinity of the Ynys Feurig, Cemlyn Bay and the Skerries SPA. The features of the SPA include the four tern species: Roseate, sandwich, arctic and common tern. As detailed in point 34 – 36 above, impacts on terns should be fully assessed in the ES, and where required the ES should propose and deliver appropriate mitigation to ensure that the works are not detrimental to the Favourable Conservation Status of tern populations. As well as the Ynys Feurig, Cemlyn Bay and the Skerries SPA, the proposed Anglesey Terns SPA should be also be assessed in both the ES and as part of the HRA.

117. Section 16.2.8 lists designated sites that are considered to be of relevance to the marine environment. However, NRW consider that there are seabirds of SPAs not listed which may use areas within the potential zone of impacts of Wylfa Newydd. In scoping designated sites in and out of the assessment, we advise the applicant to consider those birds with foraging ranges within range of the power station, as shown in Thaxter et al (2012). We advise the applicant to assess impacts on bird colonies which have mean maximum foraging ranges which overlap with the Wylfa Newydd Development Area in order to ascertain whether or not there will be direct interaction. For example, Puffin Island SPA is not listed (in either Table 11.1 or in section 16.2.8), yet it is within the foraging range of the Cormorant, one of the features of the SPA and therefore needs to be assessed. NRW can provide further advice with regard to scoping in/out of SPAs.

118. Section 16.2.6 refers to the marine bird surveys undertaken to inform the ES. NRW advise that sufficient baseline information should be collected to inform both the ES and HRA. NRW can provide further advice with regard to the information collected and the assessments proposed.

- *Marine Biosecurity*

119. As detailed above, we note the applicant's intention to use Porth y Pistyll for freight delivery by sea. This coupled with the new breakwaters will provide a high risk pathway (shipping vessels) and substratum (artificial breakwaters) for Marine Invasive Non Native Species (MINNS) to colonise. A marine Invasive Non-Native Species (INNS) risk assessment should be incorporated into all aspects of marine related developments and activities (including shipping and transportation for non-marine aspects of the development), as well as any potential increased effects that the cooling water outfall might have on encouraging the settlement of marine INNS. This risk will need to be assessed carefully and appropriate mitigation measures provided in the ES and HRA.

Public Access and Recreation

120. Section 19.3 states that the proposed works involve potential footpath diversions and closure of some Public Rights of Way (PRoW). The Wales Coast Path is listed as a receptor and NRW are aware that sections of the Wales Coastal Path will be diverted during the construction phase, and that some sections will require permanent diversions during the operational phase. NRW advise that disruptions to the WCP should be minimised. NRW advise that full consideration should be given to providing any alternative routing of the Wales Coastal Path away from the road side, and closer to the sea.

121. We consider it useful to include a summary of NRW's WCP Route Criteria which should be considered in the preparation of the ES:

RC1 There should be a continuous route around the coast of Wales;
RC2 The public should have a permanent right of access;
RC3 The route should be physically available at all times;
RC4 The route should be as close to the sea as practicable and desirable.

122. In addition, public roads which are shared with motor vehicles should only be utilised if there is no practical alternative – especially if there is no pavement or verge suitable for users.

123. NRW can provide further advice with regard to routing of the WCP and with advice on suitable mitigation measures for incorporating into the ES.

Archaeology and Cultural Heritage

124. We note section 17.2.1 which states that the "*Amlwch and Parys Mountain Registered Landscape of Outstanding Historic Interest in Wales (HLT16) is located outside the study area for terrestrial archaeology and cultural heritage, however, due to the potential for effects on its setting it has been included in the terrestrial archaeology and cultural heritage baseline*". We also note section 17.2.1.3 which states that "*due to its height above sea level the landscape has been included as there is the potential for distant views of the Wylfa Newydd Development Area from Parys Mountain*". We therefore advise that impacts on this receptor are assessed in the ES.

Cumulative Effects

125. In assessing the potential impacts of the proposed development, the EIA must consider the potential cumulative and in-combination impacts of the development along with other developments and activities that already exist, or have planning permission, or are otherwise reasonably foreseeable. The Cumulative Impact Assessment (CIA) should not be restricted to activities that are part of 'project' developments but should look to evaluate other activities that would not be considered to be part of a project against the activities associated with Wylfa. It should be noted that it is not necessarily only 'major' projects that have significant impacts on the environment, and interaction between two or more activities/developments may exert an effect in combination/cumulatively.

126. It is also important to note that given the highly mobile, wide ranging nature of many of the receptors (e.g. marine mammal and seabird species), and the wide geographical areas over which certain ecological and physical processes operate, activities and developments located some distance away may have the potential to interact with the proposed development. As advised above in point no. 111, Table 21.3 on "*Reasonably foreseeable future projects long-list and scoping*" should be based on the pathways that exists for impacts and on the nature of the mobile feature.

127. Section 21.2.2 refers to topic specific study areas. The applicant should note that these areas should be conservatively defined to include influences that may occur at a level that is insignificant when considering a single activity but may become significant once combined with the effects of other activities. Similarly, when selecting residual effects after mitigation has been applied, it is important to recognise that the residual level of effect after mitigation may change in significance once an effect from another activity has been applied. Such effects would then need to be re-screened back into the Cumulative Impact Assessment.

From: TownPlanning LNW [mailto:TownPlanningLNW@networkrail.co.uk]
Sent: 29 March 2016 09:38
To: Environmental Services
Subject: Isle of Anglesey-Planning Inspectorate ref ENQ010007 Wylfa EIA Scoping Report

FAO Hannah Pratt
Senior EIA and Land Rights Advisor

EN010007
Wylfa Newydd Nuclear Power Station
EIA Scoping Notification and Consultation

Thank you for the opportunity to provide feedback to the proposed policy.

Network Rail is the public owner and operator of Britain's railway infrastructure, which includes the tracks, signals, tunnels, bridges, viaducts, level crossings and stations – the largest of which we also manage. All profits made by the company, including from commercial development, are reinvested directly back into the network.

Network Rail notes the following comments in the EIA Scoping Report and has no comments to add.

20.2.4 Rail
Anglesey benefits from a principal railway route that extends from England along the north Wales coast, across the Britannia Bridge, and on to Holyhead. The key interchanges for rail travel are at Holyhead and Valley on Anglesey and Bangor on the mainland, all of which are on the north Wales coast line. Holyhead railway station is some 25km south of the Existing Power Station and immediately south of Holyhead Port. It is served by hourly services along the north Wales coast line, connecting directly to Chester and Crewe to the east and continues to Birmingham and Cardiff. In addition, five services per weekday are provided by Virgin trains to London Euston.
The closest railway station to the Existing Power Station is located at Valley, but this station is currently only a request stop, with reduced-length platforms and is only served by around half of the services that operate between Bangor and Holyhead.
Bangor railway station is some 35km south east of the Existing Power Station, on the mainland opposite Menai Bridge, and is also located on the north Wales coast line. It provides the same level of service as Holyhead railway station for regional services, giving hourly weekday direct services to Holyhead, Wrexham and Shrewsbury, with opportunities for connections to other direct services. Six services per weekday are provided by Virgin trains to London Euston i.e. one additional service per day compared to Holyhead.
The Draft North Wales Joint Local Transport Plan 2015 - 2020 and the Network Rail report Delivering a better railway for a better Wales: our plans for 2014 - 2019 include the following relevant proposals:
• Abergele Park and Ride at Abergele railway station (noted to potentially serve the "Wylfa nuclear new build") which is 80km to the east of Holyhead;
• modernisation of the north Wales coast line (Phase one) - this scheme includes new signalling and track infrastructure between Flint and Llandudno to improve line speeds;
and
• modernisation of the north Wales coast line (Phase two) - this scheme includes new signalling and track infrastructure between Llandudno and Holyhead to improve line speeds.
Electrification of the north Wales coast line is currently being considered as a future possibility, though no feasibility studies have been undertaken to establish the potential requirements, costs or timescales.

Regards

Diane Clarke TechRTPI
Town Planning Technician LNW
Network Rail
Town Planning Team LNW

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ATAL AMDDIFFYN YMATEB
PREVENTING PROTECTING RESPONDING

Gwasanaeth Tân ac Achub
Fire and Rescue Service

Simon A. Smith
Prif Swyddog Tân / Chief Fire Officer

FAO Hannah Pratt
The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Eich Cyf/Your Ref:	160321_EN010007_3756884
Ein Cyf/Our Ref:	GBH/AJ/DOFSW/Wylfa
Dyddiad/Date:	13th April 2016
Gofynner am/Ask for:	Geraint Hughes
Rhif Union/Direct Dial:	01286 662999

Dear Madam

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) – Regulation 8 and 9.

Application by Horizon Nuclear Power Wylfa Limited for an Order Granting Development Consent for the Wylfa Newydd Project.

Scoping Consultation and notification of the applicants contact details and duty to make available information to the applicant if required.

With reference to your notification dated 21st March 2016 and following an inspection of the documentation, I now confirm that the Fire Authority have no comment in respect of the above mentioned legislation.

If you should require any further information, please do not hesitate to contact the above named Officer.

Yours faithfully

[redacted]

Geraint B Hughes
Community Safety Manager – Gwynedd & Môn

James Davies
Rheolwr Prosiect / Project Manager
Swyddfa'r Rhaglen Gorfforaethol / Corporate Programme Office
Heddlu Gogledd Cymru / North Wales Police
Pencadlys Yr Heddlu / Police Headquarters
Bae Colwyn / Colwyn Bay
Conwy
LL29 8AW

The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

15th April 2016

Your Ref: 160321_EN010007_3756884

Re: Response to request for opinion (a scoping opinion) as to the information to be provided in an environmental statement relating to the Wylfa Newydd project.

Dear Sir/Madam,

Having reviewed the Environmental Impact Assessment (EIA) Scoping report produced by Horizon Nuclear Power, please find below North Wales Polices response to the request for information we believe should be included in the Environmental Statement. If you have any questions or require further clarification on any of the points raised please do not hesitate to contact me.

Section 20 Traffic and Transport:-

1. **20.2.8 Accidents**

    a. We note that the period look at (January 2010 to December 2014) only includes data for "a road accident that has resulted in someone sustaining an injury". We believe that damage only incidents should also be included as these can also have a detrimental effect on the safe passage and movement of other road users affecting the free flow of traffic along the roads and surrounding areas.

North Wales Police
Pencadlys yr Heddlu, Glan-y-Don,
Bae Colwyn LL29 8AW
Ffôn (Cymraeg): 0300 330 0101

Heddlu Gogledd Cymru
Police Headquarters, Glan-y-Don,
Colwyn Bay LL29 8AW
Tel (English): 0300 330 0101

b. We would suggest that a longer period than the current 5 years (January 2010 to December 2014) of accident data, particularly in relation to A5025 which has not been subject to significant improvements for a number of years, is used and analysed.

   North Wales Police is happy to assist in the provision of this data.

2. 20.4.2 Study Area

a. "A55 Leaving Holyhead town centre to Junction 11 (Bangor/Bethesda/A5/B4366)." The B4366 reference is incorrect and should be the A4244.

North Wales Police has already supplied incident data and advice for the A5025, we are happy to continue working with Isle of Anglesey County Council (IACC), Horizon and its contractors and may be able to provide more detailed incident data if required and for other areas that the force covers.

Regards

James Davies
Rheolwr Prosiect / Project Manager

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Heddlu Gogledd Cymru / North Wales Police
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Yr Arolygiaeth Gynllunio / The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
2 The Square
Bryste/Bristol
BS1 6PN

15 Ebrill 2016

Eich Cyf: 160321_EN010007_3756884

Par: Ymateb i'ch cais am farn (barn gwmpasu) ynghylch y wybodaeth i'w darparu mewn datganiad amgylcheddol perthnasol i brosiect Wylfa Newydd.

Annwyl Syr/Fadam

Wedi adolygu adroddiad cwmpasu Asesiad o'r Effaith Amgylcheddol Horizon Nuclear Power, gweler isod ymateb Heddlu Gogledd Cymru i'r cais am wybodaeth y credwn y dylid ei chynnwys yn y Datganiad Amgylcheddol. Pe bai gennych unrhyw gwestiynau neu pe baech eisiau unrhyw eglurhad pellach ar unrhyw un o'r pwyntiau a godwyd, mae croeso i chi gysylltu â mi.

Adran 20 Traffig a Chludiant:

1. **20.2.8 Damweiniau**

    a. Nodwn nad yw'r cyfnod dan sylw (Ionawr 2010 hyd Rhagfyr 2014) yn cynnwys dim ond data ynghylch "damweiniau ffordd ble dioddefodd rhywun anafiadau". Credwn y dylid cynnwys gwrthdrawiadau 'difrod yn unig' hefyd, gan fod digwyddiadau o'r fath hefyd yn rhwystro tramwyfa a symudiad diogel defnyddwyr eraill y ffyrdd ac yn effeithio ar lif dirwystr y traffig ar hyd y ffyrdd a'r ardaloedd cyfagos.

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b. Byddem yn awgrymu y dylid defnyddio a dadansoddi data damweiniau dros gyfnod hirach na'r 5 mlynedd presennol (Ionawr 2010 hyd Rhagfyr 2014), yn arbennig mewn perthynas â'r A5025 gan na welwyd unrhyw welliannau arwyddocaol yma ers nifer o flynyddoedd.

   Mae Heddlu Gogledd Cymru yn barod iawn i gynorthwyo â darpariaeth y data hwn.

2. Ardal Astudiaeth 20.4.2

a. "Yr A55 o ganol tref Caergybi hyd Gyffordd 11 (Bangor/Bethesda/A5/B4366)." Mae'r cyfeiriad yma at B4366 yn anghywir, yr A4244 sydd yn gywir.

Mae Heddlu Gogledd Cymru eisoes wedi darparu data digwyddiadau a chyngor mewn perthynas â'r A5025, rydym yn barod iawn i barhau i weithio â Chyngor Sir Ynys Môn (CSYM) Horizon a'i gontractwyr ac mae'n bosibl y gallem ddarparu data digwyddiadau mwy manwl pe bai angen, yn ogystal â data ar gyfer ardaloedd eraill y mae'r Heddlu'n gyfrifol amdanynt.

Yn gywir

James Davies

Rheolwr Prosiect

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Your Ref : 160321_EN010007_3756884

Our Ref : 19164

FAO:- Hannah Pratt – Senior EIA and Land Rights Advisor

18th April 2016

Dear Hannah,

Re: Scoping Consultation
Application for an Order Granting Development Consent for the Wylfa Newydd Project

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Our response focuses on health protection issues relating to chemicals and radiation. Advice offered by PHE is impartial and independent.

In order to ensure that health is fully and comprehensively considered the Environmental Statement (ES) should provide sufficient information to allow the potential impact of the development on public health to be fully assessed.

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the ES. PHE however believes the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be

relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

The attached appendix outlines generic areas that should be addressed by all promoters when preparing ES for inclusion with an NSIP submission. We are happy to assist and discuss proposals further in the light of this advice.

Yours sincerely,

On behalf of the CRCE/NSIP Consultation Team

nsipconsultations@phe.gov.uk

Please mark any correspondence for the attention of National Infrastructure Planning Administration.

Appendix: PHE recommendations regarding the scoping document

General approach

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA[1]. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the installation. Assessment should consider the development, operational, and decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES[2].

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

Receptors

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

Impacts arising from construction and decommissioning

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

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[1] Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: http://www.communities.gov.uk/archived/publications/planningandbuilding/environmentalimpactassessment

[2] DCLG guidance, 1999 http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, operation, and decommissioning of the facility.

Emissions to air and water

Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary

- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment

- should consider the construction, operational, and decommissioning phases

- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts

- should fully account for fugitive emissions

- should include appropriate estimates of background levels

- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)

- should include consideration of local authority, Natural Resources Wales, Defra national network, and any other local site-specific sources of monitoring data

- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)

    - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1

    - This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion

- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

Additional points specific to emissions to air

When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)

- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)

- should include modelling taking into account local topography

Additional points specific to emissions to water

When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts

- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)

- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure

- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water

Land quality

We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed[3] and the potential impact on nearby receptors and control and mitigation measures should be outlined.

Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist

- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination

- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

[3] Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

Waste

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).

For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options

- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

Other aspects

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

The EIA should include consideration of the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report[4], jointly published by Liverpool John Moores University and the HPA, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible." PHE supports the inclusion of this information within EIAs as good practice.

Electromagnetic fields (EMF) [include for installations with associated substations and/or power lines]

There is a potential health impact associated with the electric and magnetic fields around substations and the connecting cables or lines. The following information provides a framework for considering the potential health impact.

[4] Available from: http://www.cph.org.uk/showPublication.aspx?pubid=538

In March 2004, the National Radiological Protection Board, NRPB (now part of PHE), published advice on limiting public exposure to electromagnetic fields. The advice was based on an extensive review of the science and a public consultation on its website, and recommended the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP):-

http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/

The ICNIRP guidelines are based on the avoidance of known adverse effects of exposure to electromagnetic fields (EMF) at frequencies up to 300 GHz (gigahertz), which includes static magnetic fields and 50 Hz electric and magnetic fields associated with electricity transmission.

PHE notes the current Government policy is that the ICNIRP guidelines are implemented in line with the terms of the EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

For static magnetic fields, the latest ICNIRP guidelines (2009) recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT as advised by the International Electrotechnical Commission.

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m^{-1} (kilovolts per metre) and 100 μT (microtesla). If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects. Further clarification on advice on exposure guidelines for 50 Hz electric and magnetic fields is provided in the following note on the HPA website:

http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/Topics/Radiation/UnderstandingRadiation/InformationSheets/info_IcnirpExpGuidelines/

The Department of Energy and Climate Change has also published voluntary code of practices which set out key principles for complying with the ICNIRP guidelines for the industry.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf

There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

The Stakeholder Advisory Group on ELF EMFs (SAGE) was then set up to take this recommendation forward, explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government. In the First Interim Assessment of the Group, consideration was given to mitigation options such as the 'corridor option' near power lines, and optimal phasing to reduce electric and magnetic fields. A Second Interim Assessment addresses electricity distribution systems up to 66 kV. The SAGE reports can be found at the following link:

http://sagedialogue.org.uk/ (go to "Document Index" and Scroll to SAGE/Formal reports with recommendations)

The Agency has given advice to Health Ministers on the First Interim Assessment of SAGE regarding precautionary approaches to ELF EMFs and specifically regarding power lines and property, wiring and electrical equipment in homes:

http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/HPAResponseStatementsOnRadiationTopics/rpdadvice_sage/

The evidence to date suggests that in general there are no adverse effects on the health of the population of the UK caused by exposure to ELF EMFs below the guideline levels. The scientific evidence, as reviewed by PHE, supports the view that precautionary measures should address solely the possible association with childhood leukaemia and not other more speculative health effects. The measures should be proportionate in that overall benefits outweigh the fiscal and social costs, have a convincing evidence base to show that they will be successful in reducing exposure, and be effective in providing reassurance to the public.

The Government response to the First SAGE Interim Assessment is given in the written Ministerial Statement by Gillian Merron, then Minister of State, Department of Health, published on 16th October 2009:

http://www.publications.parliament.uk/pa/cm200809/cmhansrd/cm091016/wmstext/91016m0001.htm

http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124

HPA and Government responses to the Second Interim Assessment of SAGE are available at the following links:

http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/HPAResponseStatementsOnRadiationTopics/rpdadvice_sage2/

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_130703

The above information provides a framework for considering the health impact associated with the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

Liaison with other stakeholders, comments should be sought from:

- the local authority for matters relating to noise, odour, vermin and dust nuisance
- the local authority regarding any site investigation and subsequent construction (and remediation) proposals to ensure that the site could not be determined as 'contaminated land' under Part 2A of the Environmental Protection Act
- the local authority regarding any impacts on existing or proposed Air Quality Management Areas
- the Food Standards Agency for matters relating to the impact on human health of pollutants deposited on land used for growing food/ crops
- the Environment Agency for matters relating to flood risk and releases with the potential to impact on surface and groundwaters
- the Environment Agency for matters relating to waste characterisation and acceptance
- the Clinical Commissioning Groups, NHS commissioning Boards and Local Planning Authority for matters relating to wider public health

Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection[5] (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards[6] (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2010.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated[7]. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Authorisation of discharges of radioactive waste to the environment Principles for the assessment of prospective public doses. Interim Guidance, August 2012'[8]. In addition, the promoter might find it helpful to consider guidance published by the National Dose Assessment Working Group on its website (www.ndawg.org). It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

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[5] These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at http://www.icrp.org/

[6] Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

[7] HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at www.hpa.org.uk

[8] Environment Agency (EA), Scottish Environment Protection Agency (SEPA),Northern Ireland Environment Agency (NIEA), Health Protection Agency and the Food Standards Agency (FSA). Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment, August 2012.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities[9]. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.

Environmental Permitting

Amongst other permits and consents, the development will require an environmental permit from the Natural Resources Wales to operate (under the Environmental Permitting (England and Wales) Regulations 2010). Therefore the installation will need to comply with the requirements of best available techniques (BAT). PHE is a consultee for bespoke environmental permit applications and will respond separately to any such consultation.

[9] HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

Annex 1

Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES

- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used

- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account

- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach[10] is used

[10] Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

From: Navigation [mailto:Navigation.Directorate@thls.org]
Sent: 18 April 2016 10:47
To: Environmental Services
Cc: Nick Dodson; Thomas Arculus
Subject: RE: EN010007 - Wylfa Newydd Nuclear Power Station - EIA Scoping Notification and Consultation

Dear Hannah Pratt,

Thank you for your e-mail below.

Trinity House would like to see the following included in the Wylfa Newydd Nuclear Power Station Project Environmental Statement:

Navigation Risk Assessment

- Comprehensive vessel traffic analysis in accordance with the requirements of MGN 543.
- The possible cumulative and in-combination effects on marine traffic routes and patterns should be fully assessed and include:

  I. All designated wave and tidal project areas.

  II. Local port traffic e.g. Holyhead, Liverpool and Mostyn.

  III. The TSS off Skerries to the north west of the project.

  IV. Provision of Trinity House aids to navigation in the area (1 Lighthouse, 1 Beacon and 5 Lighted Buoys).

Risk Mitigation Measures

- We note that much of the works below the high water mark will require a marine licence from NRW but we feel that risk mitigation measures for some of the obstructions such as the Marine Off Loading Facility, breakwaters and the cooling water intakes and outfalls should be considered at this stage. Such works will require to be marked as deemed necessary by Trinity House and early consultation with ourselves on this matter is recommended.

I hope these comments are useful and we look forward to further discussions with the developer on these matters in due course.

Kind regards,

Steve Vanstone
Navigation Services Officer

From: Environmental Services [mailto:environmentalservices@pins.gsi.gov.uk]
Sent: 21 March 2016 16:58
To: Navigation
Cc: Thomas Arculus; Nick Dodson
Subject: EN010007 - Wylfa Newydd Nuclear Power Station - EIA Scoping Notification and Consultation

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The Planning Inspectorate
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Issued via email only

Date: 14/04/2016
Our Ref: OG/NSIP/Wylfa

Dear Sir / Madam,

Planning Act 2008 (as amended) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) – Regulation 8

EN010007 – Wylfa Newydd Nuclear Power Station – EIA Scoping Notification and Consultation

I refer to your consultation letter received in accordance with the above regulations. We have reviewed the documents available at this stage in the process and specifically the Scoping Request received.

I advise that we have and continue to work collaboratively with the applicant in regard to the water supply demands of the new power station, as well as the capability of the public sewerage system and Waste Water Treatment Works to accommodate the waste discharges from the site. Our recommendation is therefore that the Environmental Impact Assessment provides comprehensive information on the drainage strategy for the development site.

We respectfully reserve the right to comment further on any matters and issues arising from ongoing and future consultation. However, we trust the above information is helpful at this stage and we look forward to continuing our engagement on the project prior and during the submission of an application to the Planning Inspectorate.

Finally, I would be grateful if all future correspondence relating to the project is directed to me at the above address. For any further information, please do not hesitate to contact me.

Yours faithfully,

[redacted]

Owain George
Lead Development Control Officer
Developer Services