

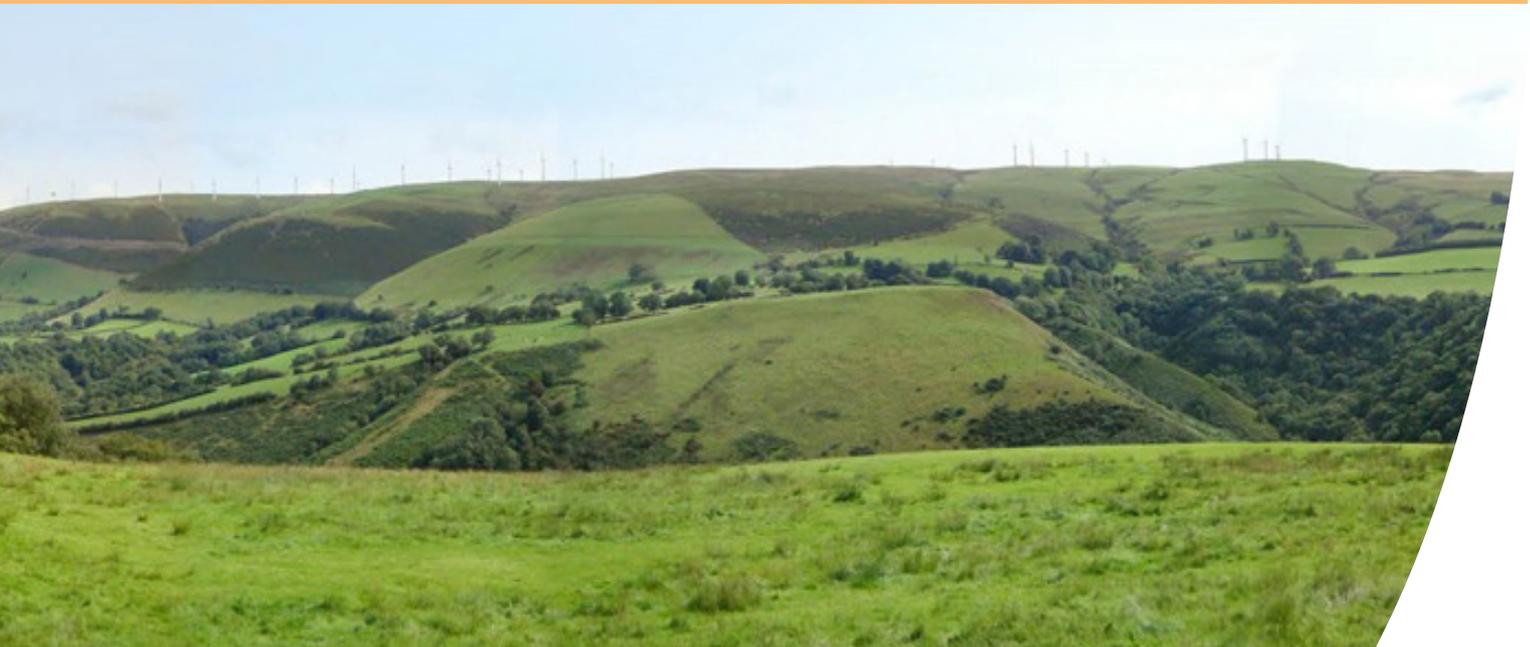


# The North Wales Wind Farms Connection Project

## HRA No Significant Effects Report

Application reference: EN020014

March 2015



Regulation reference: The Infrastructure Planning  
(Applications: Prescribed Forms and Procedure)  
Regulations 2009 Regulation 5(2)(g)

Document reference 5.7



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# **North Wales Wind Farms Connection Project**

## **No Significant Effects Report**

### **Conservation of Habitats and Species Regulations 2010**

March 2015

PINS Reference: EN020014

Document Reference: 5.7

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(g)

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**The Planning Act 2008**

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

**Regulation 5(2)(a)**

**The North Wales Wind Farms Connection Project**

**No Significant Effects Report**

<b>Document Reference No.</b>	<b>5.7</b>
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<b>Author</b>	<b>Peak Ecology / Gillespies</b>
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## **Executive Summary**

### **Introduction**

The purpose of the 'No Significant Effects' Report is to meet the requirements of The Conservation of Habitat and Species Regulations 2010 (the "Habitats Regulations") which transpose the requirements of Article 6(3) of the Habitats Directive 92/43/EEC (the "Habitats Directive").

This NSER screens the Proposed Development for likely significant effects' both alone and in combination with other projects on any European sites. It identifies two European sites that may be affected by the Proposed Development and provides sufficient information to demonstrate that the Proposed Development will not result in a likely significant effect either alone or in combination with other plans and projects.

### **Habitat Regulations Assessment Overview**

This NSER is compliant with Advice Note Ten, which is published by the Planning Inspectorate and provides advice on the preparation of Habitat Regulations Assessment (HRA) to be submitted with applications for Nationally Significant Infrastructure Projects under the requirements of the Habitats Directive.

If a project is likely to have a significant effect on a European Site, the Habitat Regulations require the competent authority to make an 'appropriate assessment' of the implications for that site in view of that site's conservation objectives. The applicant must provide the competent authority (in this case the Secretary of State) with such information as may reasonably be required to determine whether an appropriate assessment is needed.

### **European Sites Considered**

The Habitats Regulations enable the protection of sites that host habitats and species of European Importance. These sites are collectively referred to as Natura 2000 Sites and comprise Special areas of Conservation (SACs), Special Protection Areas (SPAs) and RAMSAR sites.

All SACs within 15km of the Proposed Development and Special Protection Areas (SPAs) and RAMSAR sites up to 70km away were identified and a test of significance was carried out to determine whether the Proposed Development, either alone or in combination with the Wider Scheme, or other developments in the area, would result in a likely significant effect on a Natura 2000 site.

As neither the Proposed Development nor the Wider Scheme are located within any SACs, it is considered, beyond scientific doubt, that they will not have an effect on any of the SACs within 15km of the Proposed Development. Some protected species which could be associated with SACs, such as otter and bats range beyond the immediate boundary of SACs and therefore if a SAC supports a protected species there is the potential for it to be affected. However no SACs have been identified, with such qualifying species, which could be affected.

Indirect effects, such as hydrological links, could also impact on nearby SACs. However there are not considered to be any such indirect effects from the Proposed Development and the Wider Scheme due to the potential linkages and distances involved.

Two sites were specifically raised through consultation and were considered further in accordance with PINS Advice Note 10. These are:

- Elwy Valley Woods - located 5km north-west of Denbigh, just to the north of Henllan and following the valley heading northwards towards Bont-newydd. The Proposed Development and the Wider Scheme would avoid the SAC and pass by approximately 700m to the west. The site comprises semi-natural dry grasslands and scrub on calcareous substrates; inland waterbodies; broadleaved and coniferous woodland, and; inland rocks screes and sand. The woodland has developed along steep valley sides and ravines.
- The Dyfi Estuary SPA – lies some 68km from the Proposed Development and the Wider Scheme and is important as an estuarine habitat and an over-wintering flock of Greenland white-fronted geese.

The Proposed Development and the Wider Scheme would be approximately 700m from the Elwy Woods SAC (and much further from all other identified European sites), therefore, there would be no direct or indirect effects, either temporary or permanent and it is considered that an appropriate assessment will not be required.

The Dyfi Estuary SPA is approximately 68km from the Proposed Development and the Wider Scheme. Greenland white-fronted geese are the only interest feature and there would be no direct or indirect effects, either temporary or permanent on this species. It is considered that an appropriate assessment would not be required.

### **Summary**

The NSER has been submitted to Natural Resources Wales (NRW) for consultation purposes. NRW has confirmed that it concurs with its conclusions and is of the view that significant effects on European sites (either alone or in combination with effects from other plans or projects which they are aware) are unlikely to occur as a result of granting a development consent order for the scheme.

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# 1 INTRODUCTION

## 1.1 Introduction

- 1.1.1 SP Manweb Plc ("SP Manweb") is making an application (the "Application") to the Secretary of State for a development consent order ("DCO") to construct a new 132 kV Overhead Line from the Collector Substation in Clocaenog Forest, in the vicinity of the Clocaenog Forest Wind Farm Substation, to a Terminal Pole located to the south of the Glascoed Road (the B5381), Cefn Meiriadog (the "Proposed Development").
- 1.1.2 This No Significant Effects Report ("NSER") has been prepared to meet the requirements of The Conservation of Habitat and Species Regulations 2010 (the "Habitats Regulations") which transpose the requirements of Article 6(3) of the Habitats Directive 92/43/EEC (the "Habitats Directive").
- 1.1.3 This NSER has been submitted to Natural Resources Wales ("NRW") for consultation purposes. NRW has confirmed that it concurs with its conclusions and is of the view that significant effects on European sites (either alone or in combination with effects from other plans or projects which they are aware) are unlikely to occur as a result of granting a development consent order for the scheme. A copy of the letter is provided at the end of this Report.

## 1.2 Proposed Development - Background

### SP Manweb

- 1.2.1 SP Manweb plc is the electricity distribution network operator for North and Mid Wales, Cheshire, Merseyside and parts of Shropshire. Within this area SP Manweb works with customers who may require a connection for electricity supply or who are looking to provide generation which needs to be exported onto the network.
- 1.2.2 As an electricity distribution network operator SP Manweb holds a distribution licence pursuant to the Electricity Act 1989 (the "1989 Act") and is subject to a number of conditions under its licence and statutory duties under the 1989 Act.
- 1.2.3 Section 9(2)(a) of the 1989 Act requires SP Manweb to:-
- 'develop and maintain an efficient, co-ordinated and economical system of electricity transmission';*
- 1.2.4 Under condition 16 of its distribution licence SP Manweb is required to offer to provide a connection to its distribution network as and when it is asked to do so by any of its customers.

### Need for the Proposed Development

- 1.2.5 The UK has signed up to the EU Renewable Energy Directive 2009/28/EC, which includes a UK target of 15 percent of energy from renewables by 2020. To meet this target, along with emission reduction targets, generation from new renewable energy is required.
- 1.2.6 In support of this, in July 2005, the Welsh Assembly Government (WAG) published Technical Advice Note No 8 'Planning for Renewable Energy' (TAN 8). This document identified seven broad 'Strategic Search Areas' (SSAs) for onshore wind farms in Wales. Of these broad areas SSA A is located in North Wales.

- 1.2.7 Clocaenog Forest in North Wales was identified in TAN 8 as one of the seven Strategic Search Areas for renewable development (SSA A). As a result, new generation projects have been developed in the area and require connections to the distribution system.
- 1.2.8 Four wind farm developers have obtained planning permission / development consent to build wind farms in SSA A and have applied for and agreed terms with SP Manweb to provide them with connections to the electricity grid network. Under the terms of its distribution licence, SP Manweb is obliged to make an offer of connection in response to each valid application made.
- 1.2.9 These four contracted wind farms are listed below and shown in Figure 1.1<sup>1</sup> (TAN8 and Consented Wind Farms);
- Clocaenog Forest (SJ013578)

In September 2014 RWE NPower Renewables received a development consent for a new wind farm in Clocaenog Forest in North Wales. The wind farm is expected to generate between 64 and 96 MW, from 32 turbines. The turbines will have a total height (to tip) of 145m. Clocaenog Forest Wind Farm does not require a connection route as the wind farm substation is located next to the Collector Substation.
  - Brenig (SJ021742)

In April 2009, Brenig Wind Ltd received planning permission to build a 16 turbine wind farm at Llyn Brenig, with an installed generating capacity of 40MW. The turbines will have a total height (to tip) of 100m. SP Manweb understands that the connection from this wind farm to the Collector Substation will run underground, along existing forest tracks, through Clocaenog Forest.
  - Nant Bach (SJ989470)

In May 2011, Vattenfall received planning permission to build an 11 turbine wind farm at Nant Bach, with an installed generating capacity of up to 27.5 MW. The turbines will have a total height to tip of 100m. SP Manweb understands that the connection from this wind farm to the Collector Substation will run underground, along existing forest tracks, through Clocaenog Forest.
  - Derwydd Bach (SJ030500)

In July 2011 Tegni received planning permission to build a 10 turbine wind farm at Derwydd Bach, with an installed generating capacity of 23 MW. The turbines will have a total height to tip of 120.5m. Connection to the Collector Substation will be by underground cable along existing forest tracks.
- 1.2.10 Together the four windfarms are known at the "Wind Farms"<sup>2</sup>. Together the four wind farms are known as the "Wind Farms". Potential connection routes for Derwydd Bach, Nant Bach and Brenig Wind Farms have been identified following discussions with the developers for the Wind Farms and are indicated in Appendix 1.5 to the Environmental Statement (DCO Document Ref 6.17).

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<sup>1</sup> See Appendix 1 'Figures'; DCO Document Ref 5.8

<sup>2</sup> Potential connections from the Wind Farms to the Collector Substation are indicated in Appendix 1.5 of the Environmental Statement (DCO Document Ref 6.17)

## The Proposed Development

- 2.1.1 The Proposed Development includes the following principal elements:
- Construction of a 17km 132kV overhead electricity distribution connection between Clocaenog Forest and St Asaph, both in Denbighshire;
  - A temporary construction compound at Broadleys Farm, A453, Denbighshire and temporary storage or 'laydown areas' along the alignment, without which the overhead line could not be constructed;
  - Access points for pedestrians and vehicles along the length of the Proposed Development for the duration of construction, without which the overhead line could not be constructed;
  - Mitigation planting; and
  - Other integral works such as site preparation and clearance, earthworks, alteration of existing services, vegetation removal/planting and minor street works.
- 2.1.2 The main component of the Proposed Development is a new 17 kilometre 132,000 volt (132kV) Overhead Line from the proposed North Wales wind farm Collector Substation near Clocaenog Forest and which terminates in a field to the south of Trebanog, Groesffordd Marli, which is located 1.8km from St Asaph substation. It is located in North Wales and crosses the administrative boundaries of Denbighshire County Council and Conwy County Borough Council (see Figure 1.1)
- 2.1.3 The Order Limits also includes land from an un-named highway to the south of Trebanog, Groesffordd Marli to the terminal point of the 132 kV Overhead Line. The DCO includes the rights to install (and keep installed), retain, use, inspect, maintain, renew, remove and relocate an underground cable in this land.
- 2.1.4 The 132kV Overhead Line would comprise conductors supported by double wood poles. The wood poles are generally no larger than 470mm in diameter, and would range between 11m and 16.6m in length. Taking into account that the nominal depth of the poles is 2.5m and the steel bracings and insulators add typically 2.3m to the length, the net result is that the actual conductor height above ground (at pole positions) is about 0.2m less than the pole length referred to. The average span between poles is 79m.
- 2.1.5 The Order Limits for the Proposed Development contain a Limit of Deviation (LoD) within which the 132kV Overhead Line would be located. The LoD provides a degree of flexibility to ensure that any environmental constraints, technical constraints or landowner requests can be accommodated. The LoD varies between 20m wide in areas with good ground conditions and 40m wide in areas with poor ground conditions.

## Wider Scheme

- 2.1.6 The Proposed Development does not include all elements of the North Wales Wind Farms Connection Project. This is because the following elements are considered to be "Associated Development", which, in Wales, cannot be included in an application for a development consent order. Those elements not included within the Proposed Development are known as the Wider Scheme and comprises:
- Proposed works to St Asaph substation, including the development of an underground cable taking the connection point at St Asaph to the terminal point of the Proposed Development located in a field to the south of Trebanog, Groesffordd Marli (which is south of Glascoed Road, B5381). Further information is provided within Appendices 1.1 and 1.2 of the Environmental Statement (DCO Document Ref 6.17);
  - A new 132 kV electrical substation at Clocaenog Forest to act as the collector substation for four consented wind farms. (Further information is provided within Appendix 1.3 of the Environmental Statement (DCO Document Ref 6.17));
  - Temporary storage areas within the existing St Asaph substation and the Collector Substation at Clocaenog Forest; and
  - Diversions of existing of lower voltage overhead line crossings. (Further information is provided in Appendix 1.4 of the Environmental Statement (DCO Document Ref 6.17)).
- 1.2.11 The location and route of the Proposed Development is shown on Figure 1.2<sup>3</sup> (see Appendix 1 to this Report (DCO Document Ref 5.8)).
- 1.2.12 For the purposes of this NSER all elements of the Wider Scheme have been considered in combination with the Proposed Development, together with the Wind Farms and their potential connections.

## 1.3 Habitat Regulations Assessment Overview

- 1.3.1 The Habitats Directive, provides legal protection for habitats and species of European importance. Article 2 of the Habitats Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest. In particular, Article 6 (3) of the Directive states:
- “Any plan or project not directly connected with, or necessary to, the management of the [European] site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives”*
- 1.3.2 The purpose of this ‘No Significant Effects’ Report is to meet the requirements of the Directives referred to above. These directives are transposed into domestic law by the Conservation of Habitats and Species Regulations 2010 (England and Wales) (as amended) (the "Habitat Regulations").

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<sup>3</sup> See Appendix 1 'Figures'; DCO Document Ref 5.8

## **1.4 Methodology and Structure of the Habitats Regulation Assessment**

- 1.4.1 This Report identifies the European sites of relevance, summarises the potential effects of the Proposed Development and the Wider Scheme and a test of significance to inform the competent authority's decision.
- 1.4.2 This NSER is provided in support of an application for a DCO.
- 1.4.3 The Report is structured as follows:-
- Chapter 2: Planning and Policy Context;
  - Chapter 3 : Description of the European Sites Potentially Affected;
  - Chapter 4: Description of the Proposed Development;
  - Chapter 5: Test of Significance; and
  - Chapter 6: Conclusions.

## **1.5 Consultation**

- 1.5.1 To inform the preparation of the application for development consent, SP Manweb has undertaken a thorough pre-application consultation process, which has included the following key stages:
- Scoping Report submitted to the Planning Inspectorate (PINS) (January 2014) (DCO Document Ref 6.30);
  - Scoping Opinion received from the Secretary of State (February 2014) (DCO Document Ref 6.29); and
  - Statutory consultation (in accordance with section 42 of the Planning Act 2008) on Preliminary Environmental Information Report (PEIR) (March 2014).
- 1.5.2 Chapter 6 of the Environmental Statement 'Ecology and Biodiversity' (DCO Doc Ref 6.6) provides a summary of the Secretary of State's Scoping Opinion and the response to the issues raised in the Opinion.
- 1.5.3 A summary of responses to consultations, of particular relevance to this NSER, is provided in Table 1.1 below.

**Table 1.1 – Summary of Consultation Responses**

<b>Date</b>	<b>Consultee</b>	<b>Summary of Issue</b>	<b>Response</b>
May 2013	Natural Resources Wales (NRW) (Meeting)	NRW recommended that Statutory Sites e.g. Annex 1 habitats, 2nd Tier Sites, Section 42 habitats and Local BAP habitats should be considered in the ECIA <sup>4</sup> being undertaken as part of the EIA.  Advice was also provided on other organisations / local groups that should be contacted.	Statutory and locally designated sites have been considered as part of the EclA which forms part of the EIA.  Other organisations / groups have been contacted, however no feedback has been provided on European designated sites.
May 2014	Denbighshire County Council	The Council commented on the likely impact on the local wildlife, a site of importance for nature conservation and ancient woodland.	No feedback was provided on European sites.
May 2014	NRW	The potential impact on the Elwy Valley Woods SAC was highlighted and the need for a Habitats Risk Assessment, the first part of which is a test of significance. NRW believe the Secretary of State would be the Competent Authority.	The Proposed Development does not include any land subject to the Elwy Valley Woods SAC. As assessment of the effect of the Proposed Development is included within this Report.
June 2014	Welsh Government	Welsh Government commented that they would favour undergrounding the power line as the area can be overflowed by migratory geese. If the overground alternative were to be considered, an	The Dyfi Estuary is approximately 68km distant from the Proposed Development.

<sup>4</sup> ECIA = Ecological Impact Assessment

Date	Consultee	Summary of Issue	Response
		Appropriate Assessment would be needed in respect of the Dyfi Estuary SPA and its overwintering population of Greenland White-fronted Geese, plus other overwintering goose populations to the south.	As it was raised by the Welsh Government potential effects on the qualifying features of this SPA have been considered
September 2014	NRW (Meeting)	European Protected Sites: NRW commented that a 'No Likely Significant Effects Report' would be appropriate as long as it set out why no full HRA was produced.	This Report demonstrates why no full HRA has been produced.

Note: With regards to the response from NRW (May 2014) there were at the time two alternative routes under consideration, one of which was much closer to the boundary of the SAC than the current proposal.

## 2 PLANNING AND POLICY CONTEXT

### 2.1 National Policy Statements

- 2.1.1 The Planning Act 2008 defines the installation of an above ground transmission connection of 132kV or above as being a 'Nationally Significant Infrastructure Project' ("NSIP").
- 2.1.2 National Policy Statements ("NPSs") set out Government policy for the delivery of major energy infrastructure and the Secretary of State must decide an application for a development consent order in accordance with the relevant NPSs (except in those circumstances set out at paragraph 1.1.2 of NPS EN-1).
- 2.1.3 Six NPSs for energy infrastructure were designated by the Secretary of State for Energy and Climate Change in July 2011. The most relevant NPSs for transmission infrastructure are the Overarching National Policy Statement for Energy (EN-1)<sup>5</sup> the National Policy Statement for Renewable Energy Infrastructure (EN-3)<sup>6</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>7</sup> (which must be read in conjunction with EN-1).

#### **NPS EN-1**

- 2.1.4 NPS EN-1 notes that the Government's objectives for energy and climate change will require further diversification of the UK's energy sources and much greater use of renewable and other low carbon forms of generation. It is estimated that there will be a need for about 59GW net of new capacity by 2025, of which 33GW would need to come from renewable sources to meet renewable energy commitments (para 3.3.22). It notes that;

*"Lack of sufficiently robust electricity networks can cause, or contribute to, large scale interruptions. Existing transmission and distribution networks will have to evolve and adapt in various ways to handle increases in demand, but construction of new lines of 132 kV and above will also be needed to meet the significant national need for expansion and reinforcement of the UK's transmission and distribution networks" (para 3.7.2).*

- 2.1.5 The NPS states that a 'smarter' electricity grid will be needed to support a more complex system of electricity supply and demand with generation occurring in a greater diversity of locations. It notes that;

*"new lines will have to be built, and the location of renewable energy sources and designated sites for new nuclear power stations makes it inevitable that a significant proportion of those new lines will have to cross areas where there is little or no transmission infrastructure at present, or which it may be claimed should be protected from such intrusions"*

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<sup>5</sup> Department for Energy and Climate Change : Overarching Energy National Policy Statement: July 2011

<sup>6</sup> Department for Energy and Climate Change: National Policy Statement for Renewable Energy Infrastructure

<sup>7</sup> Department for Energy and Climate Change: National Policy Statement for Electricity Energy Infrastructure (EN-5): July 2011

- 2.1.6 It emphasises that;
- “the urgency of need for new generating capacity means that the need for new transmission infrastructure that is required to connect that capacity will be similar”* (para 3.7.7).
- 2.1.7 As the Proposed Development and the Wider Scheme is required to connect new renewable energy generation to the electricity transmission network it supports the objectives of EN-1.
- NPS EN-3**
- 2.1.8 NPS EN-3 briefly refers to the grid connection needs of an onshore wind farm, directing applicants to consult NPS EN-1 for further details.
- 2.1.9 Para 2.7.8 states that connection of the ‘*proposed onshore wind farm to the relevant electricity network will be an important consideration for applicants.*’ Para 2.7.9 recognises that ‘most onshore wind farms are connected into the local distribution network at an intermediate voltage of 33, 66 or 132 kilovolts (kV).
- NPS EN-5**
- 2.1.10 National Policy Statement EN-5<sup>8</sup> provides specific guidance relevant to ‘electricity networks infrastructure’ NSIPs.
- 2.1.11 NPS EN-5 notes that the general location of electricity network projects is often determined by the location, or anticipated location, of a particular generating station in relation to the existing network (para 2.2.2).
- 2.1.12 The NPS deals with the circumstances in which it is considered appropriate to consider a networks application separately from related proposals which may include proposed generating stations. These include where the project is wholly or substantially supported by connection agreements or contractual arrangements to provide the connection.

## **2.2 Planning Inspectorate Advice Note Ten: Habitat Regulations Assessment**

- 2.2.1 The Planning Inspectorate has published Advice Note Ten which provides advice on the preparation of Habitat Regulations Assessment to be submitted with applications for Nationally Significant Infrastructure Projects. This NSER has been prepared in accordance with that advice note and is compliant with it.

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<sup>8</sup> Department for Energy and Climate Change : National Policy Statement for Electricity Networks Infrastructure July 2011

## **2.3 HRA Within the Planning Act 2008**

- 2.3.1 A Habitats Regulation Assessment is required to screen a project for likely significant effects, alone and in combination with other projects on any European sites. If a project is likely to have a significant effect on a European Site, the Habitat Regulations require the competent authority to make an 'appropriate assessment' of the implications for that site in view of that site's conservation objectives. The applicant must provide the competent authority (in this case the Secretary of State) with such information as may reasonably be required to determine whether an appropriate assessment is needed.
- 2.3.2 This NSER screens the Proposed Development for 'Likely Significant Effect' under the requirements of Council Directive 92/43/EEC on the conservation of Natural Habitat and Wild Fauna and Flora and Council Directive 79/409/EEC on the conservation of Wild Birds. The Report identifies two Natura 2000 sites that may be affected by the Proposed Development and provides sufficient information to demonstrate that the Proposed Development will not result in a likely significant effect either alone or in combination with other plans and projects.

## **3 NATURA 2000 SITES**

### **3.1 Introduction**

3.1.1 This Chapter provides an overview of the designations for Natura 2000 sites and identifies the Natura 2000 sites which may be potentially affected by the Proposed Development and the Wider Scheme, the qualifying features and conservation objectives.

### **3.2 Overview**

3.2.1 The Habitats Regulations enable the protection of sites that host habitats and species of European Importance. These sites are collectively referred to as Natura 2000 Sites and comprise:

- Special Areas of Conservation (SAC) - high quality conservation sites that have been given strict protection under the European Habitats Directive (92/43/EEC). These sites have been selected to conserve rare and vulnerable animals, plants and habitats (excluding birds that are listed in Annexes I and II of the Directive (as amended));
- Special Protection Areas (SPA) – sites designated in order to protect rare and vulnerable bird species and their habitats. They are classified in accordance with the Council Directive 2009/147/EC (Birds Directive) the Conservation of Wild Birds (the codified version of Council Directive 79/409/EEC on the conservation of wild birds) and aim to safeguard bird species and populations that are listed in Annexes I and II of the Directive; and
- Ramsar Sites - wetlands of international importance that have been designated under the Ramsar Convention (1971). Sites are selected for their international significance relating to all ecology, botany, zoology, limnology or hydrology wetland components. The designation recognises the importance of wetlands as economic, social and environmental entities and the need to conserve them.

3.2.2 Part II, Regulation 10 of the Habitat Regulations provides a definition of the term “European Site” which it identifies as including SAC and SPA sites, as well as candidate / proposed sites (cSAC and pSPA) which are being consulted on or are pending a European Commission decision. The Habitats Regulations do not provide statutory protection for pSPAs or to cSACs before they are agreed with the European Commission. For the purpose of considering development proposals and their likely impacts on such sites, as a matter of policy, the UK Government has decided those pSPAs and cSACs that have been included in a list sent to the European Commission, to be considered in the same way as if they have already been classified or designated.

### 3.3 European Sites

3.3.1 All SACS within 15km of the Proposed Development have been considered (see Table 3.1 below). Outside of 15km it is considered highly unlikely that the SACs would be negatively impacted due to the type of development proposed. SPAs and RAMSAR sites up to 70km away have also been considered (see Table 3.2 below) as the Welsh Government identified the Dyfi Estuary SPA as being potentially affected. This SPA is approximately 68km from the Proposed Development and the Wider Scheme at its closest point, however all SPAs within a 70km radius have been identified.

**Table 3.1: SAC Sites Within 15Km**

Name of Site	Primary Reason for Designation	Secondary Reason for Designation	Distance from Final Route Alignment <sup>9</sup> (closest point)
Coedwigoedd Dyffryn Elwy / Elwy Valley Woods	Elwy Valley Woods one of three sites representing <i>Tilio-Acerion</i> forest across its geographic range, an example of the habitat with an outstanding lower-plant flora.	Lesser horseshoe <i>Rhinolophus hipposideros</i> resident	0.7km
Llwyn	Alluvial forests with alder <i>Alnus glutinosa</i> and ash <i>Fraxinus excelsior</i> .		5km
Alyn Valley Woods / Coedwigoedd Dyffryn Alun	Semi-natural dry grasslands and scrubland facies, <i>Tilio-Acerion</i> forest of slopes, scree and ravines and Alluvial forest with alder and ash	Lesser horseshoe <i>Rhinolophus hipposideros</i> and otter <i>Lutra lutra</i> resident	14km
Halkyn Mountain / Mynydd Helygain	European dry heaths, Calaminarian grasslands of the <i>Violetalia calaminariae</i> , semi-natural dry grasslands and scrubland facies and <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils.	Great crested newt <i>Triturus cristatus</i> resident	15km

<sup>9</sup> The Final Route Alignment is the centreline of the Limits of Deviation

- 3.3.2 Elwy Valley Woods is the closest SAC to the Proposed Development, located 5km north-west of Denbigh, just to the north of Henllan and following the valley heading northwards towards Bont-newydd. It consists of semi-natural dry grasslands and scrub on calcareous substrates; inland waterbodies; broadleaved and coniferous woodland, and; inland rocks screes and sand.
- 3.3.3 The woodland has developed along steep valley sides and ravines. The majority of the site is with a varied canopy, but with ash *Fraxinus excelsior* as the commonest species. There are also occasional wild service trees *Sorbus torminalis* and small-leaved lime *Tilia cordata* present, which are of particular interest. The habitat supports rare bryophytes, including *Bryum canariense*, *Cololejeunea rossettiana* and *Plagiochila britannica*. Bat species including Natterer's *Myotis nattereri*, brown long-eared *Plecotus auritus* and lesser horseshoe *Rhinolophus hipposideros* have been recorded in caves within the SAC.
- 3.3.4 Llwyn is an example of floodplain woodland which supports a diverse woodland community dominated by alder and ash.
- 3.3.5 Alyn Valley Woods supports a large stand of semi-natural broadleaved woodland arising along the steep gorge of the river Alyn. It is one of the largest continuous areas of mixed woodland on base-rich soils associated with rocky slopes in Wales. The drier gorge woodland is composed predominantly of ash and sessile oak, whilst the ground flora contains such plants as dog's mercury, false brome and ferns, particularly harts-tongue, being common.
- 3.3.6 Some uncommon plants to be found in the Alyn Valley include herb paris, stinking hellebore, green-flowered helleborine, toothwort and spurge laurel. The narrow woodland strips along the valley bottom and on the wetter ground are an example of alder woodland on floodplains. Several small areas of species rich calcareous grassland are also present.
- 3.3.7 Halkyn Mountain SAC is a mosaic of calcareous grasslands, purple moor-grass meadows, bracken and dry heath with heavy metal tolerant vegetation developed on old metal mine spoil. The site is also designated for its population of great crested newts.

**Table 3.2: SPA / RAMSAR Sites Within 70Km**

<b>Name of Site</b>	<b>Primary Reason for Designation</b>	<b>Secondary Reason for Designation</b>	<b>Distance from Final Route Alignment</b>
Liverpool Bay (SPA)	Non-breeding aggregations of red-throated diver and common scoter.		8km
Berwyn (SPA)	Most important upland breeding bird assemblage in Wales. Hen harrier, merlin, red kite and peregrine.		17km
Migneint-Arenig-Ddualt (SPA)	Hen harrier, merlin and peregrine.	Also present are golden plover, dunlin, red grouse, chough, red kite, black grouse and curlew.	17km
Dee Estuary (SPA/RAMSAR)	Wintering ducks and waders, breeding terns and migratory waders. Common tern, little tern, sandwich tern, bar-tailed godwit, redshank, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, pintail, shelduck, teal.		20km
Mersey Narrows and North Wirral Foreshore (SPA)	Overwintering redshank, turnstone, dunlin, knot, grey plover, oystercatcher and cormorant.		24km

Name of Site	Primary Reason for Designation	Secondary Reason for Designation	Distance from Final Route Alignment
River Dee & Bala Lake/Afon Dyfrdwy a Llyn Tegid (SAC/RAMSAR)	Water courses of plain to montane levels with <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> .  Mesotrophic lake with international rare plants and unusual fish.	Otter, freshwater pearl mussel, sea lamprey, brook lamprey, river lamprey, twait shad, atlantic salmon, bullhead.	25km
Lavan Sands, Conwy Bay (Traeth Lafan) (SPA)	Largest known regular coastal autumn moulting population of great crested grebes. Also supports nationally important over-wintering populations of two regularly occurring migratory species; oystercatcher and curlew.		31km
Puffin Island (Ynys Seiriol) (SPA)	Breeding cormorant.		36km
Mersey Estuary (SPA)	Overwintering golden plover, dunlin, pintail, redshank, shelduck, teal. On passage redshank and ringed plover.		36km

Name of Site	Primary Reason for Designation	Secondary Reason for Designation	Distance from Final Route Alignment
Ribble and Alt Estuaries (SPA)	Overwintering bartailed godwit, Bewick's swan, golden plover, whooper swan, black tailed godwit, dunlin, grey plover, knot, oystercatcher, pink-footed geese, pintail, redshank, sanderling, shelduck, teal, wigeon. Breeding common tern, ruff, lesser black-backed gull. On passage ringed plover, sanderling.		39km
Martin Mere (SPA)	Overwintering Bewick's swan, whooper swan, pink-footed geese, pintail, pochard, mallard, teal and wigeon		58km
Craig yr Aderyn (SPA)	Breeding and over-wintering chough.		63km
Cors Fochno, and Dyfi / Dyfi Estuary (SPA/RAMSAR)	Wintering Greenland white-fronted geese (roosting and feeding) and important numbers of wigeon.	Cors fochno – raised peat bog with nationally scarce mosses and invertebrates. Ynyslas sand dunes – important mosses and liverworts, fungi and rare insects and spiders.	68km
Ynys Feurig, Cemlyn Bay & The Skerries (SPA)	Breeding populations of arctic tern, common tern, roseate tern and sandwich tern.		69km

## **4 DESCRIPTION OF THE PROPOSED DEVELOPMENT**

### **4.1 Introduction**

4.1.1 This Chapter sets out a description of the construction, operation and decommissioning of the Proposed Development.

### **4.2 The Proposed Development**

4.2.1 An overview of the Proposed Development and the Wider Scheme is provided in Chapter 1 of this report.

### **4.3 Alternatives Considered**

#### **Identification of Route Corridors and Preferred Route Corridor**

4.3.1 The 'North Wales Wind Farms Connection Route Corridor Report' (May 2013)<sup>10</sup> considered five potential route corridors (Red, Green, Blue, Blue/Red and Blue/Green). Following consultation and appraisal the Blue/Green link corridor was selected as the Preferred Route Corridor. This Corridor was approximately 20 km in length, and runs between Brenig / Clocaenog North and St Asaph, indicated in Figure 4.1<sup>11</sup>.

4.3.2 Concerns were expressed during the Stage 2 non-statutory consultation regarding the potential environmental effects on the village of Henllan, including:

- Effects on residential visual amenity;
- Effects on biodiversity;
- Effects on the Henllan Conservation Area; and
- The high number of people effected by routeing in proximity to Henllan.

4.3.3 In response to the feedback to the Stage 2 Consultation options to take the route further away from Henllan were investigated.

4.3.4 Routeing to the east of Henllan was not feasible due to the high number of designated features including SAC and SSSI within the lower Elwy Valley, the essential settings of Parks and Gardens (Foxhall and Plas Heaton), and proximity to the eastern edge of the village.

4.3.5 Options to the west were investigated and refined resulting in an alternative which deviated from the original Blue Green Corridor at Eriviat Park, turning northwest and passing through pastureland in the direction of Hafod Wood, before turning north and re-joining the original Blue Green Corridor north of Berain, at Tyddyn Bartley. This option, via Hafod, was considered to be both technically and environmentally feasible.

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<sup>10</sup> North Wales Wind Farm Connections Project: Route Corridor Report (May 2013); SP Manweb

<sup>11</sup> See Appendix 1 'Figures'; DCO Document Ref 5.8

### Proposed Route Alignment

- 4.3.6 The Proposed Route Alignment (the 100m wide corridor that formed the basis of the Stage 3 Consultation) was developed within the Preferred Route Corridor (via Henllan) with an option through Hafod. Both the Henllan and the Hafod options were considered in the Preliminary Environmental Information Report<sup>12</sup> and were taken forward to the Stage 3 (statutory) Consultation (carried out between March 2014 and June 2014).

### Final Route Alignment

- 4.3.7 Responses to the consultation, supported both the 'Hafod' and the 'Henllan' options. Due to the larger population closer to the 'Henllan' option, the number of responses preferring either option was not considered an appropriate factor to consider. Information provided in support of each route has been considered as part of an environmental and technical review.
- 4.3.8 Feedback from statutory bodies, the national and regional organisations that SP Manweb is required to consult with on the Proposed Development, noted a preference for the 'Hafod' option.
- 4.3.9 The Preliminary Environment Information Report (Section 16) found a preference for the 'Hafod' option, concluding that:
- “Overall it is considered that Option (a): via Hafod is preferred as although effects on the landscape and ancient and semi natural woodland (ASNW) are slightly greater for this option these are outweighed by greater effects on residential amenity and the historic environment for Option (b): via Henllan.*
- 4.3.10 The Henllan option was also closer to the Elwy Valley Woods SAC.
- 4.3.11 The technical review identified that the 11kV network surrounding Henllan would be affected by the proposed 'Henllan' option, requiring substantial diversion work. In comparison the 'Hafod' option avoids the 11kV overhead line and would require less diversion work. No other technical issues were identified on either of the route options.
- 4.3.12 Taking into consideration consultation feedback, environmental and technical actors the 'Hafod' option was selected as preferred.
- 4.3.13 In response to consultation feedback a number of areas were looked at in greater detail. These included:-
- Tir Mostyn Ridge;
  - Tan-yr-Allt;
  - Pandy Wood;
  - Hafod Farm Approach;
  - Berain Farm; and
  - Cable Route from the Terminal Pole.

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<sup>12</sup> North Wales Wind Farm Connections Project: Preliminary Environmental Information Report (March 2014); SP Manweb;

- 4.3.14 None of these alternatives moved the Final Route Alignment in closer proximity to any SACs or SPAs.
- 4.3.15 A further alternative was investigated in the vicinity of the Elwy Valley and Cefn Meiriadog where concerns had been raised about potential skylining. The Proposed Route Alignment through these areas had sought to minimise potential effects on the Historic Landscape area (Elwy valley), the SAC, SSSI, RIGS, areas of ASNW. Adjustments to the alignment would likely result in more effects on these designated areas and therefore the route was not amended in this location.
- 4.3.16 Following further detailed engineering and environmental reviews a Final Route Alignment has been developed and has been evaluated as part of this NSER process. Figure 1.2 illustrates the Order Limits which form part of the application for a DCO.

## 4.4 Construction

### Overhead Line Design

- 4.4.1 The 132kV Overhead Line proposed is a Scottish Power single circuit double wood pole design. It accommodates three individual phase conductors and an underslung earth conductor to ensure that any ROEP<sup>13</sup> is reduced to an acceptable level. The phase conductors are supported on two insulators types, horizontal tension insulators and vertically mounted post insulators, which are secured to galvanised steel cross-arms assemblies. The cross arm assemblies are in turn supported by “H” wood pole structures. The under slung earth conductor will incorporate a fibre optic cable and is fixed to the lower side of the cross arm assembly. Galvanised steel stay wires, designed to provide the structures with support to cater for lateral forces, are attached to the poles where the line changes direction, at failure containment structures<sup>14</sup> and at terminal positions.
- 4.4.2 The wood pole structures are constructed as intermediate, section or terminal structures. Intermediate structures are used where the overhead line follows a straight line and where the route topography is comparatively level. The conductors (or wires) are continuous at these structures and are secured using a clamp arrangement at the top of a vertically mounted insulator. The intermediate “H” pole structure comprises two poles set 3m apart with a galvanised steel cross-arm approximately 6m wide.

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<sup>13</sup> ROEP = Rise of Earth Potential

<sup>14</sup> Failure containment structures (i.e. a section structure with additional stays in order to deal with a mechanical failure event) are used at strategic points along the route to contain any cascade damage which could arise in the unlikely event of a failure of one or more conductors.

- 4.4.3 Angle section structures with a similar cross-arm of 6.0m overall length are fitted with stays to enable changes of direction in the overhead line. The structures are “H” pole arrangements and can provide a maximum angle of deviation of 35 degrees. The conductors at these locations are secured to horizontally mounted tension insulators and are fixed using special mechanical fittings. The conductors on either side of a section structure are joined using a short length of conductor known as a jumper which is supported on a vertically mounted insulator.
- 4.4.4 Terminal structures are used at either end of the overhead line. The terminal structure allows the overhead line to be connected to an underground cable or directly to a substation gantry. For the underground cable the terminal structure comprises a stayed 4 pole construction consisting of an “H” pole with two smaller support poles immediately in front to support the cable terminations. A terminal structure will require three twin stay arrangements which provide a balance against the weight and tension of the conductors. The conductors are secured on horizontally mounted insulators with mechanical type fittings similar to angle towers.
- 4.4.5 The height of the conductors from the ground varies between each wood pole structure relative to the topography of the land with the lowest point typically being mid-span between poles, although this will vary with the terrain or if the poles are at different heights. The minimum statutory ground clearance for 132kV conductors (including underslung earth wire) is 6.7 metres over road or other locations.
- 4.4.6 For the Proposed Development the average distance between the wood pole structures (referred to as span length) is 79m. The maximum span length is 120m and the shortest 50m. The design includes a total of 218 structures – 2 terminal, 126 intermediate and 87 section or angle type which includes 8 failure containment structures.
- 4.4.7 The heights and diameter of the poles vary due to changes in topography and other factors such as span length, wind span and weight span, and angles of deviation. The wood poles are generally no larger than 470mm in diameter, and will range between 10.8m and 16.4m in length. Taking into account that the nominal depth of the poles is 2.5m and the steel bracings and insulators add typically 2.3m to the length, the net result is that the actual conductor height above ground (at pole positions) is about 0.2m less than the pole length referred to.
- 4.4.8 The wood pole is illustrated in Figure 4.2<sup>15</sup> Connection Types: Double Wood Poles.

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<sup>15</sup> See Appendix 1 ‘Figures’; DCO Document Ref 5.8

## Overhead Line Construction

4.4.9 Generally the sequence for overhead lines on double wood poles is as follows<sup>16</sup>:-

### *Pre-Construction Enabling Works;*

- Tree trimming;
- Undergrounding or diversion of lower voltage overhead line crossings;
- Alterations to the existing road network if required.

4.4.10 Where the overhead line passes over, or is in close proximity, to trees that could infringe the safety clearance from the live conductors then these will be either felled or trimmed prior to construction of the pole.

### *Site Set Up;*

- Establishment of secure storage area, welfare cabins, and temporary offices;
- Construction of temporary site access points where required;
- Erection of temporary works access signing and access route signing;
- Construction of temporary stone haul roads;
- Scaffolding of road crossings; and
- Construction of hard stands for winches.

4.4.11 A site at Broadleys Farm, on the A453, has been identified as a construction compound for the construction works. This temporary yard will include welfare facilities for the workforce throughout the construction phase of the works and will have a number of portable cabins together with a material store with temporary lighting. The construction compound would take approximately four weeks to establish and would be in use for the same duration as the 132 kV Overhead Line construction. Access to the proposed construction compound would be via the A543. No modifications to the existing access is required at the construction compound.

4.4.12 At convenient places along the route, temporary storage or 'laydown areas' will be required. Typically these areas will measure a minimum of 34m x 34m and will be level such that articulated lorries can be safely unloaded.

4.4.13 It is also intended that the existing St Asaph substation and the Collector Substation at Clocaenog will be utilised as the temporary storage areas.

4.4.14 Access will be required to each pole position throughout the duration of the works. Generally a 5m access is required to accommodate the construction vehicles.

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<sup>16</sup> Further information is provided in the Design and Construction Report (DCO Doc Ref 7.1)

*Delivery of materials to site / Pole Erection and Conductor Stringing;*

- Excavations for foundations;
  - Dressing and erection of poles;
  - Installation of temporary stays;
  - Running out of conductor pulling bonds;
  - Installation of insulators and conductors;
  - Commissioning.
- 4.4.15 From the laydown area poles will be taken to their individual locations, as close to their final position as possible, by general purpose vehicles with incorporated lifting devices.
- 4.4.16 The conductor will be delivered on cable drums by general purpose vehicles as close as possible to the angle or tension pole sites from which the conductors will be pulled.
- 4.4.17 Construction requires an approximate area of 1200m<sup>2</sup> (34m x 34m) at individual pole sites to provide sufficient space for excavators to manoeuvre for the excavation of the foundations and subsequent back fill. Additionally sufficient room is required to lay out the poles and either winch or crane them into their final position. In areas with poor ground conditions the Limits of Deviation and the Order Limits have been increased (see Figure 1.2).
- 4.4.18 Further working areas will be required at the angle poles to accommodate the winches required for stringing the conductors. Generally these will be required every 1km to 2 km along the line although the locations will be dependent upon the availability of access, and the number and severity of the angle deviations which in turn are dependent upon the final pole positions. Generally a distance of about 70m is required behind the angle pole (or terminal pole) for the pulling equipment and conductor drums.
- 4.4.19 For the foundations a pit is excavated with soils typically stored as a mound adjacent to the excavated area. This is followed by the installation of pole braces and or steel foundations and earth mats. The excavation is then backfilled and consolidated in layers, usually with the original materials. Topsoil is reserved for the top layer and any surplus subsoil or rock is removed from site.
- 4.4.20 Overhead line conductors are usually erected from one end of the overhead line in short sections. Works are carried out sequentially and plant would move from one location to the next until stringing is completed.

*Demobilisation;*

- Removal of welfare cabins, temporary offices, work compounds and storage areas;
- Removal of temporary access tracks, working areas and demarcation zones, and reinstatement of fields;
- Removal of temporary access points and signing; and
- Reinstatement of verges & hedgerows.

4.4.21 Reinstatement is carried out as soon as possible after each part of the Proposed Development is completed. Construction areas would be reinstated where possible to their previous grade and condition. Foundations and track verges would be regarded with stored soil adjacent to each excavation and then reseeded or cultivated as appropriate. Any temporary access roads would be removed and reinstated to original conditions following construction. There is no requirement for permanent access tracks to the overhead line.

**Control of Environmental Effects During Construction**

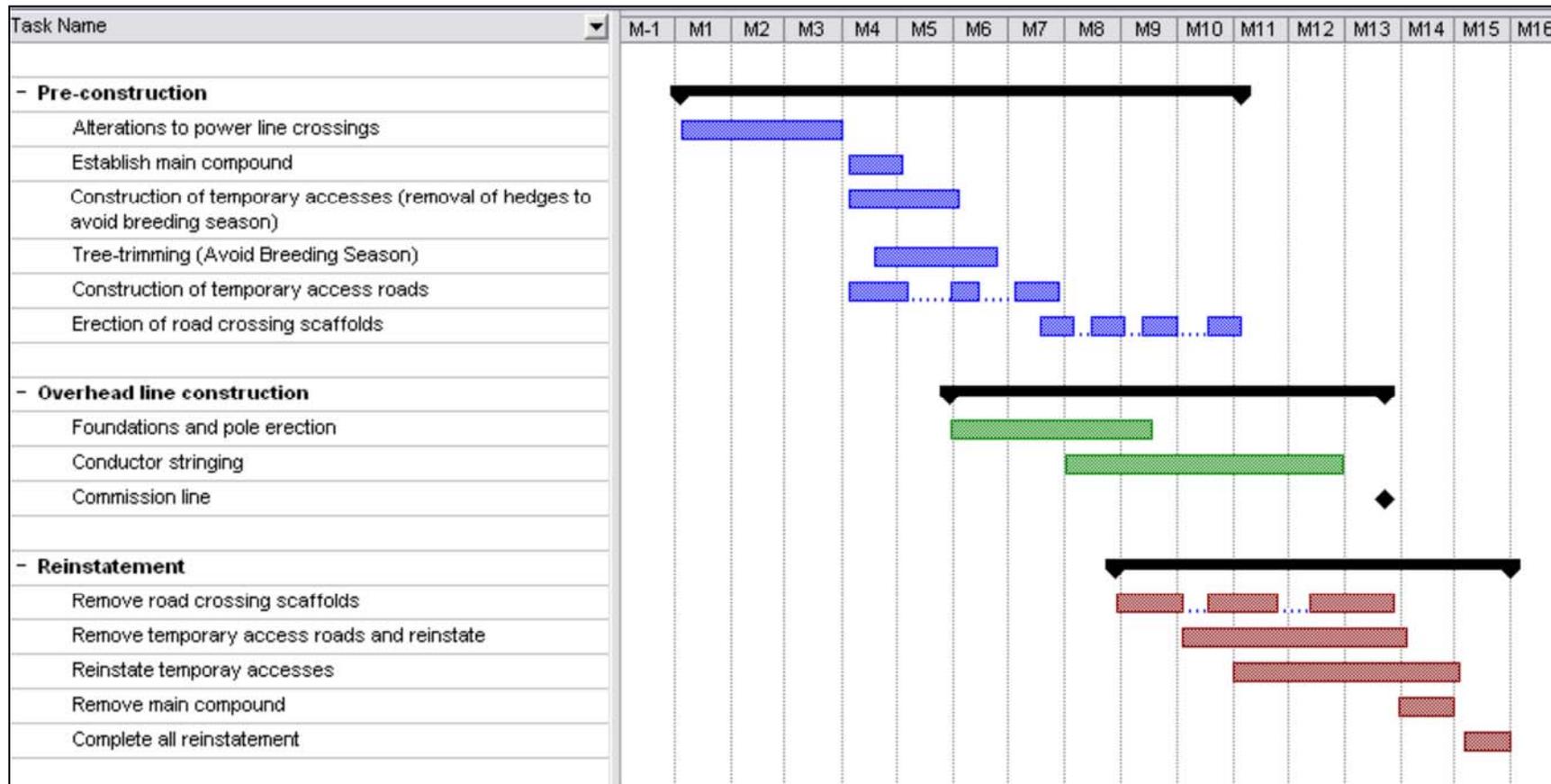
4.4.22 SP Manweb have produced a Construction Environmental Management Plan (CEMP) (DCO Document Ref 6.18) which identifies those responsible for overseeing the construction works and outlines a series of established good practice working methods intended to minimise environmental disturbance. The CEMP provides a commitment to delivering the environmental recommendations and mitigation measures formulated during the design and development process, during construction of the Proposed Development. Compliance with the CEMP is identified as a Requirement within the Draft DCO and will be a contractual requirement for the appointed contractor who will be audited at regular intervals by a SP Manweb environmental representative on site.

4.4.23 All site staff will be given appropriate environmental training before starting work on site. The CEMP will also include a series of specialist information packs, 'toolbox talks', to inform site operatives of the sensitivity of particular sites and of wider safeguards to protect natural and cultural heritage.

**Programme**

4.4.24 The outline programme for the construction of the Proposed Development is included below.

4.4.25 It is anticipated that construction activities will commence in June 2016.



## **4.5 Operation**

- 4.5.1 During operation the 132kV Overhead Line would be maintained from SP Manweb depots in Llandudno Junction and Wrexham. No permanent presence would be required.
- 4.5.2 Most components of overhead lines are maintenance free and once installed the 132kV Overhead Line would require only monthly and annual site inspections and periodic maintenance.

## **4.6 Decommissioning**

- 4.6.1 The need for the connection is dependent on the four wind farms, which have an operational life of 25 years. The operational life of a 132kV Overhead Line is approximately 40 years therefore longer than the lifespan of the wind farms. Operational requirements of the local electrical network and associated demand would be kept under continuous review throughout this period to determine the long term use and retention of the connection, prior to any decommissioning decision being taken. If it's useful life has expired and the connection is to be removed, much of the material will be taken for recycling. A similar process to remove the connection will be required as for construction.

## 5 TEST OF SIGNIFICANCE

### 5.1 Introduction

5.1.1 The following section sets out a test of significance to determine whether the Proposed Development, either alone or in combination with the Wider Scheme, or other developments in the area, will result in a likely significant effect on a Natura 2000 site, an adverse impact on the designated interest features or conservation objectives of a Natura 2000 site. The Proposed Development is not related to the management of any EU site. Guidance<sup>17</sup> states that the determination of what is or isn't significant requires an objective approach, dependent upon the specific features and conditions of the protected site under consideration. It advises that every site must be judged individually as what is significant in relation to one site may not be significant in relation to another.

### 5.2 Characterisation of Existing Environment

5.2.1 Characterisation of the existing environment has been informed through a desk based study of available data, and information from the consultation process.

5.2.2 Desk study records were supplied by COFNOD and The Vincent Wildlife Trust. Survey data from Great Crested Newt Monitoring by Middlemarch Environmental Ltd (2010) and desk study and survey results from Burbo Bank Extension Environmental Statement, Annex 26 – Onshore Biological Environment (RPS Planning & Development Ltd, 2013) have also been used.

#### Survey Methodologies

5.2.3 Different Study Areas were used for surveys for individual species and species groups. A summary of the Study Areas defined for each group / species and methodology is provided below.

5.2.4 Standard methodologies were followed for surveys undertaken and included;

- An Arboricultural Survey (June 2014 – July 2014) - on land within the Proposed Route Alignment. The methodology adopted was as set out in British Standard 5837 (2012) '*Trees in Relation to Construction*';
- A Badger Survey (July 2013 – August 2013 & April 2014 – May 2014) - on land within the Preferred Route Corridor (2013) and on land within the Proposed Route Alignment of 100m, plus 50m buffers either side (2014). The methodology adopted was as set out in 'Surveying Badgers' methodology (Harris et al., 1989);
- Bat Activity Surveys (June 2013 – September 2013) - namely transects within the Preferred Route Corridor at four points across the corridor. The methodology adopted was as set out in the Good Practice Guidelines for Bat Surveys (Hundt, 2012);

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<sup>17</sup> European Communities 2000 *Managing Natura 2000 Sites. The provisions of Article 6 of the 'Habitats' Directive 92/43/CEE*

- A Black Grouse Survey (March 2013 – May 2013) - of suitable habitat within the Preferred Route Corridor (restricted to the south). The methodology adopted was as set out in the standard method for monitoring black grouse leks as set out in Bird Monitoring Methods (Gilbert et al., 1998);
- A Breeding Bird Survey (April 2013 – July 2013) – was undertaken of sampled areas within the Preferred Route Corridor. The methodology adopted was as set out in Marchant, 1983 (scaled down) and Brown & Shepherd (1993);
- An Extended Phase 1 Habitat Survey (July 2013 – August 2013 & April 2014 – May 2014) - within the Preferred Route Corridor (2013) and, in 2014, within the Proposed Route Alignment of 100m, plus 50m buffers either side. The survey followed the Handbook for Phase 1 Habitat Survey (JNCC, 2010);
- A Dormouse Survey (August 2013 – November 2013) - of eight sites across the Preferred Route Corridor. The methodology adopted was as set out in A Practical Guide to Dormouse Conservation (Bright et al., 2006);
- A Great Crested Newt Survey (May 2013 – July 2013) - ponds within 250m of the Preferred Route Corridor. The methodology adopted was as set out in The Great Crested Newt Mitigation Guidelines (English Nature, 2001);
- A Hedgerow Survey (April 2013 – May 2013 & July 2014 – August 2014) - within Preferred Route Corridor (2013) and within the Proposed Route Alignment of 100m, plus 50m buffers either side (2014). The methodology adopted followed criteria in The Hedgerow Regulations Act 1997;
- Nightjar Survey (June 2013 – July 2013) - of suitable habitat within the Preferred Route Corridor (restricted to the south). The methodology adopted followed the standard method in Bird Monitoring Methods (Gilbert et al., 1998);
- An Otter Survey (July 2013) - across three transects within the Preferred Route Corridor. The methodology adopted followed Natural England's standing advice for survey methods for Eurasian Otter;
- A Reptile Survey (May 2014) - of two sites within the Preferred Route Corridor, to the far north and south. The methodology adopted followed the Reptile Survey advice sheet (Froglife, 1999);
- A Snipe Survey (June 2013) - of suitable habitat within the Preferred Route Corridor (restricted to the south). The methodology adopted followed Brown & Shepherd (1993) with additional dawn/dusk visits in suitable habitat;
- A Vantage Point Survey (October 2012 – September 2013)- of key areas along the Preferred Route Corridor. The methodology adopted followed a method designed for wind turbine assessment (SNH, 2010) which was agreed with NRW;

- A Water Vole Survey (July 2013) - of key areas of habitat within the Preferred Route Corridor. The methodology adopted followed the Water Vole Conservation Handbook (Strachan et.al., 2010); and
- A Winter Bird Survey (November 2012 – March 2013) - throughout sampled areas incorporating all initial route corridor options. The methodology adopted followed methods outlined in Bird Monitoring Methods (Gilbert et al., 1998).

5.2.5 The baseline context and outcomes of the surveys listed above are included in detail in Chapter 6 of the Environmental Statement (DCO Document Ref 6.6) and its associated appendices (DCO Document Ref 6.19). In brief, the area comprises rolling hills, largely pasture with pockets of broad-leaved woodland, some of which is considered ancient. In addition there is some conifer plantation, particularly in the south with areas under arable tending to be in the lower-lying north of the Proposed Development.

5.2.6 Potential impacts were identified on Local Wildlife Sites, specifically those with various categories of ancient woodland.

5.2.7 With regards habitats, the valued ecological receptors identified in the ES are:

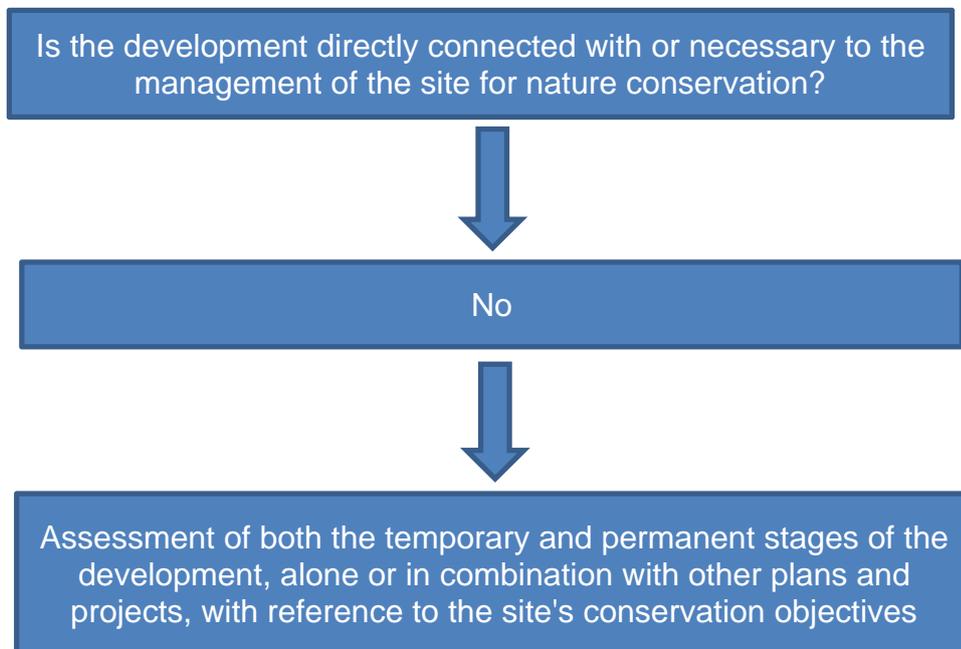
- Broadleaved woodland and plantation on ancient woodland;
- Hedgerows; and
- Mature trees.

5.2.8 With regards species the valued ecological receptors identified in the ES are:

- Great crested newt;
- Dormice;
- Bats;
- Common lizard;
- Otter;
- Farmland birds; and
- Badgers.

## 5.3 Test of Significance

5.3.1 The initial stages of the 'test of significance' are illustrated below:



## 5.4 Sites to be Considered

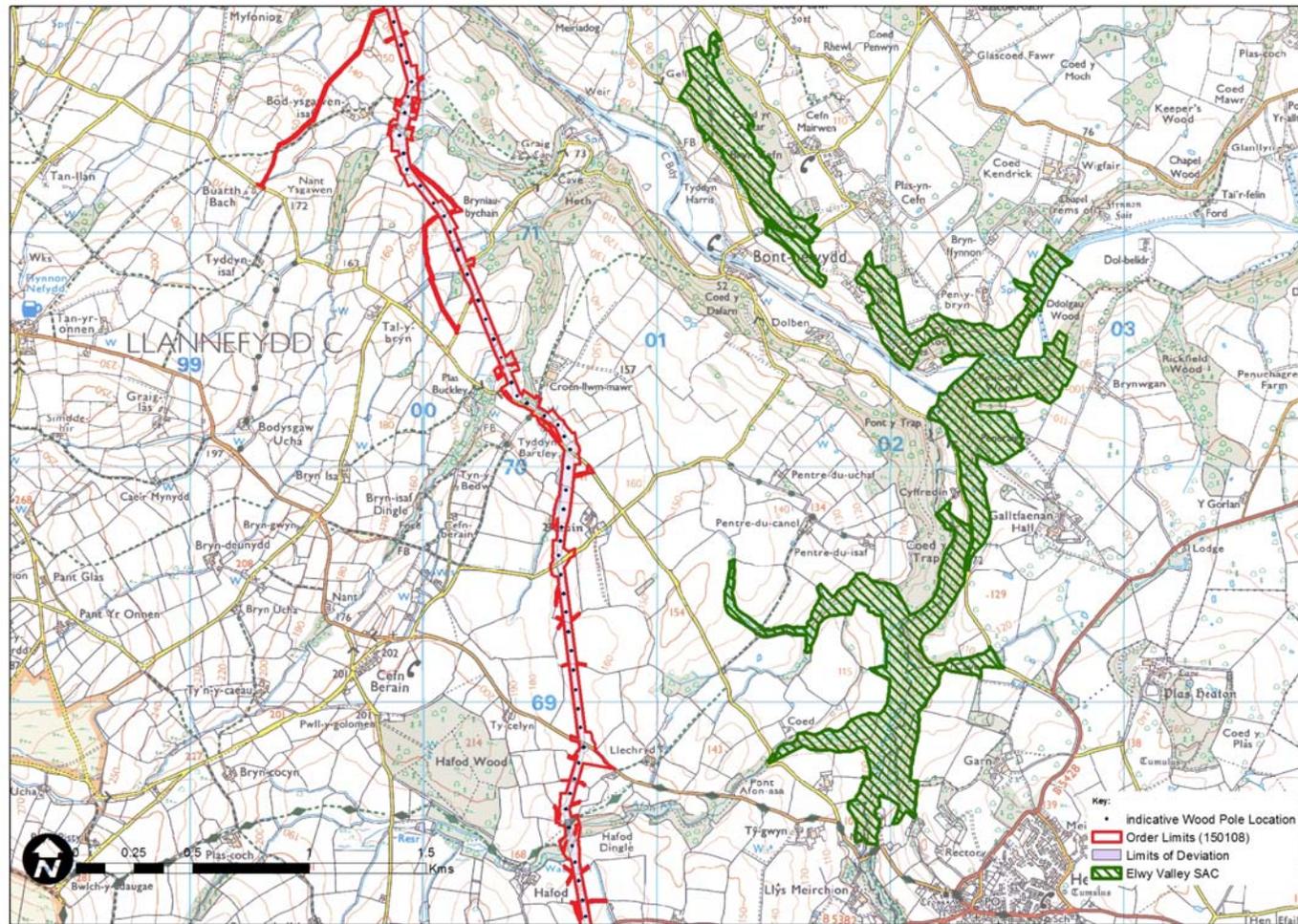
- 5.4.1 An overhead line project could give rise to direct effects to SACs, designated for habitats and non-bird species. As neither the Proposed Development nor the Wider Scheme are located within any SACs, it is considered, beyond scientific doubt, that they will not have an effect on any of the SACs referred to in Table 3.1. Some protected species which could be associated with SACs, such as otter and bats range beyond the immediate boundary of SACs and therefore if a SAC supports a protected species there is the potential for it to be affected. However no SACs have been identified, with such qualifying species, which could be affected.
- 5.4.2 Indirect effects, such as hydrological links and pollution, could also impact on nearby SACs. However there are not considered to be any such indirect effects from the Proposed Development and the Wider Scheme due to the potential linkages and distances involved. The nature of the Proposed Development is such that any indirect effects are not anticipated, the works will not be intrusive, will not produce any polluting outputs or affect groundwater levels.
- 5.4.3 Although no effects are anticipated on the Elwy Woods SAC, as this site was identified through consultation it has been considered further in accordance with PINS Advice Note 10

- 5.4.4 Table 3.2 sets out those SPAs within 70km of the Proposed Development and the Wider Scheme, supporting a wide variety of bird species, some of which may be resident others may be migratory. The birds are largely based on the SPA for all, or part, of the year and may utilise adjacent land for foraging and roosting. Migratory birds may travel considerable distances at certain times of the year.
- 5.4.5 With regards SPAs and RAMSAR sites, when consideration has been given to the characteristics of the bird species on the designated sites (see Table 3.2), it is concluded that the distance of those sites from the Proposed Development and the Wider Scheme is such that it is considered, beyond scientific doubt that there will be no effects on these sites or associated species.
- 5.4.6 During winter bird surveys no international migratory bird species of significance were observed; meaning migratory geese and swans, to which there is a known risk of collision with overhead power lines. Data records obtained during the desk study also show a lack of these species.
- 5.4.7 Passerine species of known migratory habits that were recorded included fieldfare, redwing and a proportion of other common thrushes present e.g. blackbirds and song thrushes, plus robins and starlings; risks to these species are considered minimal (see Chapter 6 Appendix 6.5).
- 5.4.8 In the breeding season surveys sub-Saharan migratory species recorded included common passerines such as wheatear, redstart, pied flycatcher, willow warbler, chiffchaff and whitethroat. A hobby was also recorded on two occasions near Vantage Point 1, suggesting they are breeding in forestry nearby. None of these species are considered to be particularly vulnerable to collision with overhead lines.
- 5.4.9 Although no effects are anticipated, as the Dyfi Estuary SPA was identified through consultation this site has been considered further in accordance with PINS Advice Note 10.

#### **Elwy Valley Woods SAC**

- 5.4.10 The Elwy Valley Woods SAC is mixed woodland on base-rich soils associated with rocky slopes. The majority of the site is considered to be Ancient Semi-Natural Woodland (ASNW), with the small areas of plantation counted as Ancient Replanted Woodland (ARW).
- 5.4.11 Figure 5.1 illustrates the location of Elwy Valley Woods SAC and the Order Limits for the Proposed Development.

Figure 5.1: Elwy Valley Woods SAC, The Order Limits And Indicative Pole Locations



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5.4.12 The primary reason for designation of this site are its Annex 1 habitats:

Elwy Valley Woods is one of three sites selected to represent **Tilio-Acerion forest** across its geographic range on the Carboniferous limestone of north Wales, and is an example of the habitat with an outstanding lower-plant flora. The canopy is quite varied: ash *Fraxinus excelsior* is the commonest tree, but there is also occasional small-leaved lime *Tilia cordata* and wild service-tree *Sorbus torminalis*. There is a rich, calcicolous understorey and ground flora, and rare bryophytes include *Bryum canariense*, *Cololejeunea rossettiana*, *Plagiochila britannica*, *Platydictya confervoides* and *Isothecium striatulum*. The woods have developed along steep valley-sides and ravines that are also important for their cave systems and Pleistocene fossil mammal assemblages.

5.4.13 The Core Management Plan (August 2012) (CCW) includes the following descriptive overview of what needs to be achieved for conservation on the site “(summarising) the Conservation Objectives (part 4) into a single, integrated statement about the site”:

*At Coedwigoedd Dyffryn Elwy/Elwy Valley Woods SAC at least 90% of the site will be covered by a sustainable semi-natural broadleaved woodland, and will be maintained as far as possible by natural processes. The trees will be locally native broadleaf species, with a dominance of ash or oak in the canopy. Other non-native canopy forming species including conifers, beech, hornbeam and sycamore will be discouraged.*

*In the long term, the canopy will include trees of all ages, and particular attention will be paid to maintaining old, veteran trees for the lower plants that thrive on their bark. Dead wood, standing and fallen, will be retained to provide habitat for invertebrates, fungi and other woodland species. This is particularly important for the scarce mosses found on site. The canopy will not be completely closed; approximately 20% of the woodland will include a dynamic shifting pattern of gaps.*

*The woodland field and ground layers will be a patchwork of many species, developed in response to local soil and humidity conditions, with such species as dog's mercury and spurge laurel abundant across the majority of the woodland and stinking hellebore is found in areas of exposed and partially shaded locations in the woodland.*

*Areas of calcareous grassland, which currently occupies around 1% of the site, will be retained and managed to retain its floristic diversity, which includes the scarce spiked speedwell, and spring cinquefoil. The expansion of this grassland will be encouraged by the removal of invading scrub.*

*The remaining unexcavated deposits in Cefn, Galltfaenan and Pontnewydd Caves will continue in an undisturbed condition, thereby providing a unique and irreplaceable resource, allowing future investigations for scientific purposes.*

- 5.4.14 There was potential in the early stages of the projects' development for the 132 kV Overhead Line to pass through or in proximity to the SAC. Refinement of the Proposed Development, as described above, from broad route corridors, to a Preferred Route Corridor, a 100m wide corridor for consultation (the Proposed Route Alignment) and the Final Route Alignment (and associated Order Limits) has meant that the route for the 132 kV Overhead Line is now approximately 700m to the west of the SAC boundary at its closest point

#### **HRA Matrices**

- 5.4.15 PINS Advice Note 10 requires applicants for development consent to prepare the HRA matrices which are appended to the advice note. These are intended to assist the Secretary of State as the competent authority in fulfilling the requirements of the Habitats Directive.
- 5.4.16 The Stage 1 Matrix A, as set out in the PINS Advice Note 10 are included below.

#### **Elwy Valley Woods SAC**

##### *Construction*

*Are the interest features exposed to potential hazards during the construction period?*

- 5.4.17 Engineering design, environmental and ecological surveys together with the consultation process have influenced the location of the Order Limits and the Final Route Alignment. The Proposed Development and the Wider Scheme will avoid the SAC and pass by approximately 700m to the west (see Fig 1.XX).
- 5.4.18 Furthermore, access routes, the construction compound and temporary storage areas have been located away from sensitive areas including this SAC and therefore the Proposed Development and the Wider Scheme will not give rise to damage or a requirement to remove any trees within Elwy Valley Woods SAC and there are therefore no potential direct or indirect effects due to the construction methods.
- 5.4.19 It is therefore considered that during construction there will be no effect caused by the Proposed Development or the Wider Scheme on the SAC.

##### *Operation*

*Will the interest features be exposed to potential hazards when the development is operational?*

- 5.4.20 As the Proposed Development and the Wider Scheme will avoid the SAC site and there are no access routes within or in the vicinity of the SAC the Proposed Development and the Wider Scheme will not give rise to damage or a requirement to remove any trees within Elwy Valley Woods SAC and therefore it is considered that during operation there will be no effect on the SAC.

##### *In Combination Effects*

- 5.4.21 As there will be no temporary or permanent effects on the SAC from the Proposed Development and the Wider Scheme there will therefore be no contribution towards any potential in-combination effect with other schemes.

## Stage 1 Matrix - Elwy Valley Woods SAC:

Name of European site: Elwy Valley Woods SAC												
Distance to NSIP 700m												
European site features	Likely Effects of NSIP											
	<i>Habitat Loss/Damage</i>			<i>N/A</i>			<i>N/A</i>			<i>N/A</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
<i>Tilio-Acerion forests of slopes, screes and ravines</i> <i>See 5.4.9 NSER</i>	Xa, b	Xa	Xc									

### Evidence supporting conclusions

- a. The route has been selected to avoid the SAC and, at its closest point, it passes 700m away to the west
- b. Access routes, temporary storage areas and the construction compound are all located away from the SAC
- c. It is anticipated that any access routes, temporary storage areas and works compounds will be positioned away from the SAC for the decommissioning.

### KEY

x = Likely significant effect **can** be excluded

'a', 'b' and 'c' refer to explanatory text below

## Dyfi Estuary SPA

- 5.4.22 As the Welsh Government suggested a potential impact on Greenland white-fronted geese, a migratory species which over-winters on the Dyfi Estuary SPA; it has been included in a screening matrix.
- 5.4.23 The Dyfi Estuary SPA is important as an estuarine habitat and an over-wintering flock of Greenland white-fronted geese. The description of the SPA interest features is included below.
- “The Dyfi Estuary is located on the west coast of Wales on the boundary between Ceredigion, Gwynedd and Powys. The SPA comprises the estuary, with adjoining saltmarsh, marshy grassland and improved grassland. The estuarine complex is of outstanding physiographic interest. It includes sandbanks, mud-flats, saltmarsh, peatbogs, river channels and creeks, with an extensive sand dune complex across the mouth of the estuary. The site is of importance as a traditional wintering area for Greenland White-fronted Goose *Anser albifrons flavirostris* – the most southerly regularly used area for this population in the UK. Until the early 1980s the geese roosted on the estuary and flew inland either to the Cambrian mountains or to the raised bog of Cors Fochno to feed. The geese now use the saltmarsh and grasslands for feeding and roost on the sandbanks and mud-flats.”*
- 5.4.24 Numbers of Greenland white-fronted geese have been recorded annually at this site and there has been a gradual decline in recent years. The reason for this decline is not known.
- 5.4.25 The distance of approximately 68km between the SPA and the Proposed Development and the Wider Scheme (at their closest point) allows a conclusion to be reached that there would be no impact on the interest feature of the SPA. However, following the specific comment from Welsh Government, this site has however been considered further in accordance with PINS Advice Note 10.
- 5.4.26 Aside from Greenland white-fronted geese, no other interest features are noted and conservation objectives are included in the Dyfi Estuary SPA - Core Management Plan. All conservation objectives are based on the Greenland white-fronted geese and are brought together, in the management plan, in the following statement:
- “The site will continue to provide a safe refuge, with all of the environmental conditions necessary to sustain nationally important numbers of over-wintering Greenland white-fronted geese in the long-term.”*
- 5.4.27 The Screening Matrix, as set out in the PINS Advice Note 10 is included below
- Construction*
- Are the interest features exposed to potential hazards during the construction period?*
- 5.4.28 The only potential impact would be the collision of Greenland white-fronted geese with the Proposed Development and the Wider Scheme.

- 5.4.29 Greenland is in a north-westerly direction from Wales and therefore when migrating the geese tend to fly across Ireland and over the North Atlantic. In contrast the Proposed Development and the Wider Scheme is in a north-easterly direction from the Dyfi Estuary; therefore there is no risk of geese from the estuary flying across the Proposed Development and the Wider Scheme.
- 5.4.30 With increasing distance the chances of a collision with the Proposed Development or the Wider Scheme are reduced.
- 5.4.31 Further, even if the geese flew an alternative migratory route, birds in general tend to fly at relatively high altitude and would not ordinarily be close to ground level, even when flying over higher ground. Bad weather can cause migrating birds to fly at lower altitude but not at a level contiguous with the Proposed Development and the Wider Scheme. Therefore it is concluded that the Proposed Development and the Wider Scheme will not have an effect during the construction or decommissioning phases upon the Dyfi Estuary SPA or any of its qualifying features.

*Operational Phase*

*Will the interest features be exposed to potential hazards when the development is operational?*

- 5.4.32 Greenland is in a north-westerly direction from Wales and therefore when migrating the geese tend to fly across Ireland and over the North Atlantic. In contrast the Proposed Development and the Wider Scheme is in a north-easterly direction from the Dyfi Estuary; therefore there is no risk of geese from the estuary flying across the Proposed Development and the Wider Scheme.
- 5.4.33 With increasing distance the chances of a collision with the Proposed Development or the Wider Scheme are reduced.
- 5.4.34 Further, even if the geese flew an alternative migratory route, birds in general tend to fly at relatively high altitude and would not ordinarily be close to ground level, even when flying over higher ground. Bad weather can cause migrating birds to fly at lower altitude but not at a level contiguous with the Proposed Development and the Wider Scheme. Therefore it is concluded that the Proposed Development and the Wider Scheme will not have an effect during its operation upon the Dyfi Estuary SPA or any of its qualifying features.

*In Combination Effects*

- 5.4.35 As there will be no effects from the Proposed Development and the Wider Scheme on Natura 2000 sites there will therefore be no contribution towards any potential in combination effects.

## Stage 1 Matrix Dyfi Estuary SPA:

Name of European site: Dyfi Estuary SPA												
Distance to NSIP 68km												
European site features	Likely Effects of NSIP											
	Overhead Line Collision			N/A			N/A			N/A		
	C	O	D	C	O	D	C	O	D	C	O	D
Greenland White-fronted Goose <i>Anser albifrons flavirostri</i>	x	Xa, b, c	x									

### Evidence supporting conclusions

- Greenland white-fronted geese, as the name suggests, spend the summer months in Greenland and migrate to the UK to over-winter. The majority actually over-winter in Ireland, the Dyfi Estuary supports the only population in Wales. Greenland is in a north-westerly direction from Wales and therefore when migrating the geese tend to fly across Ireland and over the North Atlantic. In contrast the overhead line is in a north-easterly direction from the Dyfi Estuary; therefore the chances of geese from the Estuary flying across the site are highly unlikely.
- When flying migration routes, birds in general tend to fly at relatively high altitude and would not ordinarily be close to ground level, even when flying over higher ground. Bad weather can cause migrating birds to fly at lower altitude but the chance of this happening is remote.
- The distance from the SPA to the Proposed Development and The Wider Scheme is such that chances of collision are minimal.

### KEY

x = Likely significant effect **can** be excluded

'a', 'b' and 'c' refer to explanatory text below

## 6 CONCLUSIONS

- 6.1.1 The Proposed Development and the Wider Scheme will be approximately 700m from the Elwy Woods SAC (and much further from all other identified European sites), therefore, there will be no direct or indirect effects, either temporary or permanent; it is considered that an appropriate assessment will not be required.
- 6.1.2 The Dyfi Estuary SPA is approximately 68km from the Proposed Development and the Wider Scheme. Greenland white-fronted geese are the only interest feature and there will be no direct or indirect effects, either temporary or permanent on this species. It is considered that an appropriate assessment will not be required.

### References

Countryside Council For Wales Core Management Plan including Conservation Objectives for Dyfi Estuary / Aber Dyfi Spa. Version: 9. Date: 15 April 2008.

JNCC, 2008. Information Sheet on Ramsar Wetlands. Cors Fochno and Dyfi. Version 3.0. International Designations, Peterborough.

JNCC, 2011. Natura 2000 Standard Form for Special Protected Areas (SPA) for Sites Eligible for Identification as Sites of Community Importance (SCI) and for Species Areas of Conservation (SAC). Coedwigoedd Dyffryn Elwy/ Elwy Valley Woods. International Designations, Peterborough.

JNCC, 2011. Natura 2000 Standard Form for Special Protected Areas (SPA) for Sites Eligible for Identification as Sites of Community Importance (SCI) and for Species Areas of Conservation (SAC). Dyfi Estuary / Aber Dyfi. International Designations, Peterborough.

Planning Inspectorate, 2013. Advice Note 10. Habitat Regulations Assessment for nationally significant infrastructure projects. Version 5.



## **RESPONSE FROM NATURAL RESOURCES WALES**





## **GLOSSARY**



## Glossary

132kV Overhead Line	132,000 volts overhead line from the Collector Substation to the Terminal Point
Act	The Electricity Act 1989 (as amended by the Utilities Act 2000 and the Energy Act 2004).
Above Ordnance Datum (AOD)	Elevation of land above sea level (at Newlyn)
Agricultural Land Classification (ALC)	The classification system used by the Department for Environment Food and Rural Affairs based on its quality and versatility. The classification ranges from Grade 1 (the best and most versatile) through Grades 2, 3a, 3b, 3 c and 4, down to Grade 5 (least versatile)
Agri-environment scheme / agreement	A UK government undertaking in which farmers are paid to farm in an environmentally sensitive way
Alluvium	Material transported by rivers and deposited along its course
Air Quality Management Area (AQMA)	Declared by local authorities for areas where objectives specified in the national Air Quality Strategy are not predicted to be met
Air Quality Action Plan (AQAP)	Produced by local authorities for AQMAs, setting out measures to improve air quality
Ancient Semi-Natural Woodland (ASNW)	Woodland composed of native tree species that have not obviously been planted
Aquifer	A body of permeable rock that is capable of storing significant quantities of water; is undertaken by impermeable material, and through which groundwater moves
Area of Outstanding Beauty (AOB)	Non statutory designation to categorise sensitive landscapes - designated by Denbighshire County Council
Area of Outstanding Natural Beauty (AONB)	An area designated under the National Parks and Access to Countryside Act 1949 for its particularly attractive landscape and unspoilt character, which should be protected and enhanced as part of the national heritage
Area of Search	The term given to a wide area within which the route corridors are identified and for the purposes of the

	Proposed Development is shown on the Location Plan (document reference 2.1)
Assessment of the Significance of Impacts of Development on Historic Landscape areas (ASIDOHL)	A method of assessment of the effect of a development on Historic Landscapes
Associated Development	Development which is associated with a Nationally Significant Infrastructure Project as defined by the Planning Act 2008
Authority	The Gas and Electricity Markets Authority established under Section 1 of the Utilities Act 2000
Baseline	Existing environmental conditions which are described in the ES
Best and most versatile (BMV)	Defined by the ALC as Grades 1, 2 and 3a. Provisional reclassification has removed sub-classifications within Grade 3, considering Grades 1 and 2 as 'Best and Most Versatile' (BMV) land
Biodiversity	The variety and abundance of species, their genetic composition, and the natural communities, ecosystems, and landscapes in which they occur
Biodiversity Action Plan (BAP)	A strategy for conserving and enhancing wild species and wildlife habitats in the UK. Now replaced by Country Biodiversity Strategies
British Trust for Ornithology (BTO)	
Broad Route Corridor(s)	Initial strategic corridors identified for the Proposed Development and shown on Figure 3.1 in the ES (DCO Document Ref 6.16)
Cable	An insulated conductor designed for laying underground
Cadw	The historic environment service of the Welsh Government
Collector Substation	The new collector substation which will be located in the Clocaenog Forest and will connect the wind farms into the electricity distribution network
Conductor	Overhead wire(s) attached to wood poles which

	conduct electricity
Connection and use of system code (CUSC)	<p>Defined within Transmission Licence Standard Conditions. Condition C1 and C10 states the meaning of the Connection and Use of System Code (CUSC) as:</p> <p>The licensee shall establish arrangements for connection and use of system in respect of matters which, other than those to which standard conditions C14 (Grid Code) and C5 (Use of system charging methodology) to C9 (Functions of the Authority) relate are calculated to facilitate the achievement of the following objectives:</p> <p>(a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this licence;</p> <p>(b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity; and</p> <p>(c) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</p>
Conservation Area	Designated by local authorities on account of their special architectural or historic interest, the character and appearance of which it is intended to preserve and enhance
Construction Environmental Management Plan (CEMP)	Sets out management measures required of contractors for any construction works associated with the Proposed Development
Construction phase	Is when preparatory works or construction works are taking place until commissioning of the Proposed Development
Consultation Corridors	100m wide corridor(s) within which 132 kV Overhead Line could be constructed and which were the subject of pre-application consultation pursuant to the Planning Act 2008
Consultation zone	For the purpose of the pre application consultation pursuant to the Planning Act 2008 a broad geographic consultation zone was defined and is

	shown in Appendix 7.1 of the Consultation Report (document reference 5.2.1)
Countryside and Rights of Way Act (CROW)	Act, dated 2000, which provides for public access on foot to certain types of land
Cumulative Effects	The effects of other development schemes (whether under construction, consented, or there are firm proposals for) assessed cumulatively with the Proposed Development and the Wider Scheme. These effects can be temporal (e.g. construction phases occur at the same time) or spatial (e.g. the same area is affected)
Decibel (dB)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ( $2 \times 10^{-5} \text{Pa}$ )
Decommissioning phase	The final phase of the Proposed Development covering all activities to remove the Proposed Development from the environment once it is no longer in operational use and the undertaking of restoration works
Designated area	Area designated and protected by national or international law for its landscape, biodiversity, or historic interest
Development Consent Order (DCO)	The order made when an application has been made pursuant to section 37 of the Planning Act 2008 for a NSIP and the Secretary of State determines that the order should be made
Distribution Code	A code required to be prepared by a DNO pursuant to condition 9 (Distribution Code) of a Distribution Licence and approved by the Authority as revised from time to time with the approval of, or by the direction of, the Authority.
Distribution Licence	A distribution licence granted under Section 6(1)(c) of the Act.
Distribution Network Operator (DNO)	Distribution Network Operators own and operate the electricity distribution network that brings electricity from the national transmission network to the consumer. SP Manweb is the DNO for North and Mid Wales, Cheshire and Merseyside

Easement	Allowing another person to use your land for a specific purpose, such as installing utilities
Ecological Impact Assessment (EclA)	Ecological Impact Assessment is part of an EIA and assesses the potential effects of a development on habitats and species, particularly those protected national and international legislation or considered to be of particular nature conservation importance
Electromagnetic Fields (EMFs)	Electric and magnetic fields generated by electricity
EN-1	National Policy Statements set out national policy against which proposals for major infrastructure projects will be assessed and decided by the Secretary of State. EN-1 is the Overarching National Policy Statement for Energy
EN-5	National Policy Statements set out national policy against which proposals for major infrastructure projects will be assessed and decided by the Secretary of State. EN-5 is the National Policy Statement for Electricity Networks Infrastructure
Environment Agency Wales (EAW)	Environment Agency Wales, now part of NRW, was the environmental regulator for Wales
Environmental Impact Assessment (EIA)	A statutory process whereby a project is assessed through the collection and consideration of environmental information with the aim of taking account of the predicted effects of the proposed development on the environment in the decision making process. The findings are published in an Environmental Statement
Environmental Statement (ES)	Report documenting the outcome of an Environmental Impact Assessment
Environmentally Sensitive Area (ESA)	An agricultural area which needs special protection because of its landscape, wildlife or historic value
Final Route Alignment	Current pole positions along the centreline of the Limits of Deviation identified following consultation, technical and environmental appraisal
Flood Consequence Assessment (FCA)	Required for developments in flood zones. It is an assessment of the potential impact of a development on flooding

Flood Zone (FZ)	Areas at risk of flooding, divided into subcategories / zones
Floodplain	The area that would naturally be affected by flooding if a river rises above its banks
Grid Code	The code which NGC is required to prepare under its Transmission Licence and have approved by the Authority as from time to time revised with the approval of, or by the direction of, the Authority.
Grid Supply Point (GSP)	Any point at which electricity is delivered from the National Electricity Transmission System to the DNO's Distribution System
Groundwater	Water flowing through or contained beneath the ground surface
Guidelines for Landscape and Visual Impact Assessment (GVLIA)	Guidelines for Landscape and Visual Impact Assessment (Third Edition) published by the Landscape Institute and Institute of Environmental Management & Assessment
Habitat Suitability Index (HSI)	A numerical index that represents the capacity of a given habitat to support a selected species. Most commonly used for great crested newts
Habitats Directive	EC Directive on the conservation of natural habitats of Wild Fauna and Flora (92/43/EEC)
Habitats Regulations Assessment (HRA)	Assessment undertaken of the impacts of a project on Natura 2000 sites in accordance with the requirements of The Conservation of Habitats and Species Regulations 2010
Heavy Goods Vehicle (HGV)	A good vehicle greater than 3.5 tonnes gross weight
Historic Environment Record (HER)	A register of known archaeological sites, monuments and finds
Holford Rules	A series of planning guidelines for the routing of overhead lines first developed in 1959 by Lord Holford, advisor to the then Central Electricity Generating Board (CEGB) on amenity issues. They were reviewed in the 1990s by National Grid
Institute for Archaeologists (IfA)	The Chartered Institute for Archaeologists

Insulator	Used to safely connect the conductors to wood poles or pylons
International Commission on Non-Ionizing Radiation Protection (ICNIRP)	Provides scientific advice and guidance on the health and environmental effects of non-ionizing radiation
kV	kilovolt (1000 volts)
LANDMAP	LANDMAP a tool developed by CCW (now NRW) to assess the diversity of all landscapes within Wales, identifying and explaining the characteristics and qualities
Landscape and Visual Impact Assessment (LVIA)	Assessment methodology used to assess the potential effects of a proposed development on the landscape
Landscape Character Assessment (LCA)	A standard methodology for identifying, describing, classifying and mapping what is distinctive about our landscapes
Landscape Institute (LI)	The Chartered Institute for Landscape Architects
Light Goods Vehicle (LGV)	Goods vehicles not exceeding 3.5 tonnes gross vehicle weight
Limits of Deviation (LoD)	<p>Works 1A and 1B of the Proposed Development will be carried out within Limits of Deviation which are shown on the Works Plans. The LoD provide a degree of flexibility which is required because following the making of the DCO, micro-siting may take place in response to detailed technical survey information, particularly for unconfirmed ground conditions and / or minor alterations requested by landowners</p> <p>LoD have been defined laterally and vertically</p>
Listed Building	A building of special architectural or historic interest which has been included on a list approved by the Secretary of State under the Planning (Listed Buildings and Conservation Areas) Act 1990 (known as the 'Statutory List of Buildings of Special Architectural or Historic Interest'). Buildings are classified in grades (I, II* and II) and to show their relative importance

Local Biodiversity Action Plan (LBAP)	A set of action plans for habitats and species
Local Development Plan (LDP)	A statutory document which guides future development
Local Nature Reserve (LNR)	A site with features of nature conservation interest controlled by a local authority
Local Planning Authority	Is defined by S.1 of the Town and Country Planning Act 1990 and, in the case of the Proposed Development is Denbighshire County Council and Conwy County Borough Council
Local Wildlife Site (LWS)	Sites identified and selected for their local nature conservation value
Magnitude of potential effect	The degree of change that a receptor is anticipated to experience as a result of the Proposed Development
Megawatts (MW)	Energy generated by wind farms is described in MW
Mitigation	Measures to avoid, reduce and offset environmental effects
National Grid Reference (NGR)	A system of grid references used in Great Britain
National Monuments Record (NMR)	Unscheduled archaeological sites and features recorded by Cadw
National Nature Reserve (NNR)	A protected area of importance for wildlife, flora, fauna reserved and managed for conservation
National Policy Statements (NPS)	Sets out national policy against which proposals for major infrastructure projects will be assessed and decided by the Secretary of State
National Vegetation Classification (NVC)	Classification and description of the plant communities of Great Britain
Nationally Significant Infrastructure Project (NSIP)	Means a project designated under the Planning Act 2008
Natura 2000 sites	A European-wide network of sites protected under the Habitats and Birds Directives, and made up of Special Areas of Conservation and Special Protection Areas

Natural Resources Wales or Cyfoeth Naturiol Cymru	An amalgamation of CCW, EAW and Forestry Commission Wales, operational from 1st April 2013
NGC	National Grid Electricity Transmission plc
Nitrate Vulnerable Zones (NVZ)	Areas where land drains and contributes to the nitrate found in “polluted” waters
North Wales Wind Farms Connection	Means the Proposed Development and the Wider Scheme
NSP	Noise sensitive premises
Order Limits	Means the limits shown on the works plans within which the Proposed Development may be carried out
Palaeo-channel	Ancient relict watercourse
Permitted Development	Part III of the Town and Country Planning Act provides that the Secretary of State may grant planning permission by way of development order. The principal development order is the Town and Country Planning (General Permitted Development) Order 1995 which provides that planning permission for certain developments is granted subject to specified conditions. It provides specified permitted development rights for statutory undertakers
Persons with an Interest in the Land (PILS)	Section 57 of the Planning Act 2008 defines persons with an Interest in the Land which includes: (1) owners, lessees, tenants or occupiers of land; (2) persons with an interest in land or who have a power to sell land or to release land; and (3) persons who may be able to make a claim for compensation as a result of the DCO being made and implemented.. Land for these purposes means land to which the application for development consent relates
Photomontage	A collection of images used to create an overall image. The objective of a photomontage is to simulate the likely visual changes that would result from the Proposed Development, and to produce printed images of a size and resolution sufficient to match the perspective in the same view as would

	occur in reality
Planning Act 2008 (the Act)	The legislation for Nationally Significant Infrastructure Projects and the requirements for development consent
Planning Inspectorate (PINS)	The Planning Inspectorate administers the examination of applications for development consent
Planning Policy Wales (PPW)	The document that sets out the Welsh Government's policies on different aspects of land use planning
Preferred Route Corridor	Is identified as the preferred route corridor for the Proposed Development and is set out in the Route Corridor Study
Preliminary Environmental Information Report (PEIR)	The report of the initial environmental impact assessment findings for the Proposed Development
Prescribed Consultees	Means persons to be consulted pursuant to the Planning Act 2008 and set out in Schedule 1 of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
Proposed Development	The 132kV Overhead Line together with required pedestrian and vehicular accesses, temporary construction compound, construction laydown areas, mitigation planting and other integral works
PRoW	Public Right of Way which is a footpath or track over which the public have a right of access
Ramsar sites	Wetlands of international importance designated under the Ramsar Convention (Convention on Wetlands of International Importance, especially as Waterfowl Habitats) (1971) and ratified in the UK in 1976). The convention was held in the town of Ramsar, Iran
Red Data book	The IUCN (International Union for Conservation of Nature) Red List of threatened bird species categorised as Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened or Least Concern
Regionally Important Geological Site (RIGS)	Designated sites of local, regional and national importance for geodiversity in the UK

Registered Park and Garden (RPG)	Parks and gardens which have been classified by grade to show their relative importance: Grade I – international historic interest, Grade II* - exceptional historic interest, Grade II – national historic interest
Reinstatement	The actions undertaken to return a temporary working area to its previous condition, as far as reasonably practicable
Requirement	A requirement in Schedule 2 of the Development Consent Order
Residual effects	Effects remaining after mitigation measures have been taken into account
Route corridor	Search area used to provide a degree of flexibility in which to develop a route alignment, usually approximately 1km wide and shown in respect of the Proposed Development in Figure 3.1 of the ES (DCO Document Ref 6.16)
Route Corridor Study (RCS)	An appraisal to identify potential route corridors within a defined study area
Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW)	Records and interprets built and landscape heritage
Royal Society for the Protection of Birds (RSPB)	Large nature conservation charity
Scheduled Ancient Monument	An archaeological site of national importance, which is included on a schedule compiled by the Secretary of State for National Heritage under the terms of the Ancient Monuments and Archaeological Areas act 1979 (as amended by the National Heritage Act 1983)
Scoping	An early stage within the Environmental Impact Assessment (EIA) process where the scope of the environmental studies are determined

Scoping Opinion	A person who makes an application for an order granting development consent may ask the Secretary of State his opinion as to the information to be provided in an ES and this is known as a Scoping Opinion
Scoping Report	The scoping report prepared by SP Manweb and submitted to the Secretary of State to support its application for a Scoping Opinion
Screening	Initial process by which project proposals are assessed to decide whether they require a formal Environmental Impact Assessment
Secretary of State (SOS)	The Secretary of State for Energy and Climate Change
Significance	The significance of effects considers the value (or sensitivity) of the receptor and the magnitude and likelihood of potential effects
Site of Importance for Nature Conservation (SINC)	Sites of substantive local nature conservation value
Site of Special Scientific Interest (SSSI)	An area of land of special interest by reason of its flora, fauna, geology or physiographical features notified under Section 28 of the Wildlife and Countryside Act 1981
Sites and Monuments Record (SMR)	List of known archaeological sites
Source Protection Zone (SPZ)	A zone surrounding an aquifer where the contamination of the groundwater flow due to surface spills could pollute the aquifer
SP Manweb	The DNO for North and Mid Wales, Cheshire and Merseyside. The promoter of the Proposed Development
Special Area of Conservation (SAC)	Sites chosen to conserve the natural habitat types and species of wild flora and fauna listed in Annex I and II of the Habitats Directive. They are the best areas to represent the range and variety of habitats and species within the European Union.
Special Landscape Area (SLA)	Non statutory designation to categorise sensitive landscapes - designated by Conwy County Borough Council
Special Protection Area (SPA)	Area designated under article 4 of the European Communities Council Directive on Conservation of

	Wild Birds for the protection of particularly sensitive bird species, or for regularly migrating birds: to help protect and manage areas which are important for rare and vulnerable birds because they use them for breeding, feeding, wintering or migration
St Asaph Substation	Means the substation located in St Asaph and which the North Wales Wind Farms Connection will connect into
Statement of Community Consultation (SOCC)	A statement setting out how the applicant proposes to consult the local community in respect of the Proposed Development and as required by section 47 of the Planning Act 2008
Statutory consultees	Organisations that SP Manweb is required to consult by virtue of the Planning Act 2008
Statutory undertakers	Companies with regulatory powers and duties, such as gas, electricity, water and transport providers / transmitters
Strategic Options Report (SOR)	Sets out the initial technical options for the Proposed Development, and an appraisal of each option identifying the preferred technical option for the Proposed Development
Strategic Search Area (SSA)	Associated with Welsh Government Technical Advice Note 8
Substation	Generated electricity is fed into the electrify distribution network through substations. Substations control the flow of power through the network by means of transformers and switchgear, with facilities for control, fault protection and communications
Technical Advice Note (TAN)	Welsh Government Technical Advice Notes provide supplementary guidance document on a number of planning policy matters. Welsh Government Technical Advice (TAN) 8: Planning for Renewable Energy (2005) sets out renewable energy, planning, technologies and design considerations
Terminal Point	Location at which the 132 kV Overhead Line terminates and is shown on Work Plan Sheet 13 (document reference 2.3.13)
The Wider Scheme	The Wider Scheme incorporates the wind farms, the Collector Substation, underground cables from the Terminal point to St Asaph Substation, proposed works at St Asaph Substation, temporary storage areas within St Asaph Substation and the Collector Substation and diversions of existing lower voltage overhead line crossings

Traffic Impact Assessment	Examines the potential impact of a development on the surrounding transport network
Tree Preservation Order (TPO)	Made by a local planning authority if it appears that it is expedient in the interests of amenity to make provision for the preservation of trees or woodlands in their area in order to protect such trees, groups of trees or woodlands as may be specified in the order
Undergrounding	Electricity cables laid underground
United Kingdom Biodiversity Action Plan (UKBAP)	Describes biological resources and provides detailed plans for conservation
United Kingdom Habitat Action Plan (UKHAP)	Describes habitats and provides detailed plans for conservation
Vantage Point Survey (VPS)	A survey method designed to record flight activity of bird species
Wales National Monument Record (WNMR)	Cadw National Monuments Record of sites and events
Wind Farms	the four wind farms at Nant Bach, Derwydd Bach, Clocaenog Forest and Brenig
Wireframe	Computer generated line drawing based on a digital terrain model, that illustrates the three dimensional shape of the landscape and any features within it
Wood poles	Wooden poles used to support an overhead electricity line (either single or double)
World Health Organisation (WHO)	The United Nations public health arm
Written Scheme of Investigation (WSI)	A method statement setting out archaeological investigations
Zone of Theoretical Visibility (ZTV)	A map which illustrates the potential (or theoretical) visibility of a development



**Cyfoeth  
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Ein cyf / Our ref: RN/2093086  
Eich cyf / Your ref: AREAACW/082  
PINS Reference: EN020014

4th of February 2015

By E-mail only to: [claire.duffy@sppowersystems.com](mailto:claire.duffy@sppowersystems.com)

Dear Ms Duffy:

**THE INFRASTRUCTURE PLANNING (APPLICATIONS: PRESCRIBED FORMS AND PROCEDURE) REGULATIONS 2009**

**THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010**

**NORTH WALES WIND FARMS CONNECTION PROJECT: NO SIGNIFICANT EFFECTS REPORT (DRAFT FOR NRW)**

Thank you for your consultation received on 19th of January 2015 referring to the above proposed scheme.

*Natural Resources Wales brings together the work of the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales, as well as some functions of Welsh Government. Our purpose is to ensure that the natural resources of Wales are sustainably maintained, used and enhanced, now and in the future.*

From the information provided in the draft No Significant Effects Report we concur with its conclusions. In our view significant effects on European sites (either alone or in combination with effects from other plans or projects of which we are aware) are unlikely to occur as a result of granting a development consent order for the scheme.

Please do not hesitate to contact us if you require further information or

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Croesewir gohebiaeth yn y Gymraeg a'r Saesneg

Correspondence welcomed in Welsh and English

clarification in regard to this matter

Yours faithfully,

**Richard Ninnes**  
**Head of Ecosystems, Planning and Partnerships**  
**North and Mid Wales**