

Planning, Taxi Licensing and Rights of Way Committee Report

Application No:	P/2010/0762	Grid Ref:	289936 294221		
Community Council:	Cygnor Cymuned Carno	Valid Date:	15/07/2010	Officer:	Mr Martin Carpenter, Planning Consultant
Applicant:	Amegni Renewables Ltd				
Location:	Land adjacent to Carno Wind Farm, Carno, Powys, SY17 5JS				
Proposal:	Full: Wind energy development comprising 13 turbines (with maximum tip height of 126.5m) as an extension to existing wind farms at Carno I and Carno II; transformer housing, one anemometer mast, new access tracks, substation, control building, crane hard standings, upgrading of existing access tracks, main access road alterations, underground cable route, borrow pits and construction compound areas.				
Application Type:	Application for Full Planning Permission				

UPDATE REPORT

Representations

Since the Committee report was finalised 4 representations have been received from members of the public objecting to the proposed development. The representations raise the following matters:

- the Carno II development has created disturbance from vibrations and visual harm.
- the existing turbines cause health problems.
- a local business at Carno (Tyddyn Retreat) which has been created since Carno II will be badly affected by the development.
- the proposals will damage tourism in the area.
- most of the supporters of the development are climate change campaigners who do not live locally.
- renewable fuels are to be supported when they are of the right size and in the right place.
- Questions regarding the amount of energy actually generated from onshore wind turbines.
- request that the Committee Members visit a number of the viewpoints (no's 17 and 18) submitted with the planning application - the latter (Glyndwr's Way, Penycrocbren) is considered to be a major tourist route.

- about a third of the supporters' letters work in the renewable energy sector.
- adverse impacts on the landscape, peatland & habitats, archaeology (physical damage to and the setting of heritage assets), public rights of way & recreational use of common/open access land and socio-economic/tourism.
- raise concerns over the future overhead grid connection which would also be harmful.
- the cumulative effect with Carno I and Carno II creates longer term harm to the landscape.
- the proposals will reduce the sense of wilderness which attracts walkers to the area.
- the landowners/farmers could provide more open access to their land without this application.
- Concerns over lack of consultation.
- Concerns over the ability to dismantle and remove the turbines after 25 years.

CLlr Dai Jones submitted an email stating that he objects to the application *'on the grounds that it would be extending already a vast area of wind turbines, 56 number of the existing turbines, commissioned in October 1996 are approaching the end of their economic life expectancy (See REF press release of 19th December 2012) would it not be better to replace these turbines rather than extending the size of the Wind Farm.'*

In addition the applicant has provided a number of comments on the conditions proposed and these are addressed later in this report.

Commentary on matters raised

The environmental impacts raised are dealt with in the report, health issues are dealt with under the impacts upon residential amenity and the distance between properties and the proposed turbines.

The independent assessment on landscape and visual impacts of the scheme considered residential amenity issues and concluded that none of the properties would be unacceptably affected. The impacts on tourism are also considered in the report.

Grid Connection

The proposals to connect to the grid will be the subject of a separate application at which time the impacts will be assessed.

Consultation Process

With regard to lack of public consultation, the application was submitted in 2010 and was the subject of public consultation. The revised 13 turbine scheme (July 2015) was also the subject of public consultation in accordance with Powys County Council procedures. The responses of these consultations are set out in the report.

The main report confirms that the full consultation responses are in the application file which is available for Members and the general public. Notwithstanding this, verbatim responses from statutory consultees are attached to this Update Report for ease of reference.

Recommendation & Conditions

Since the committee report was published the applicant has suggested a number of revisions to the conditions which have been carefully considered. We have also reviewed the mechanism to secure the financial instrument for the decommissioning of the scheme. This has led us to amend some conditions and detailed wording of the recommendation. The revised recommendation and proposed conditions are as follows:

Having taken into account all of the environmental information submitted, this report recommends that the application is approved subject to the planning conditions set out below and the completion of a Section 106 Agreement to deal with:

- the provision of the proposed permissive rights of way for the lifetime of the development;
- the provision of a financial contribution of £32,500 for the maintenance and improvement of public rights of way in the vicinity of the proposed development; and
- the provision of a financial instrument to ensure that funds sufficient to cover all decommissioning and site restoration costs are available to the local planning authority prior to the commencement of decommissioning and site restoration. The financial instrument shall include arrangements for funds to increase with inflation and shall include a review provision upon the 5th, 10th, 15th and 20th anniversary of the first export to ensure that the funds remain sufficient to cover the completion of the decommissioning and site restoration costs.

Conditions

1. In these conditions, unless the context otherwise requires:

“**commencement**”, in relation to the authorised development, means the date on which the authorised development begins by the carrying out of a material operation as defined in section 56 of the 1990 Act and “commence” and “commenced” shall be construed accordingly;

“**Construction Period**” means the period from work commencing on the Development until the date 18 months after the Site compounds have been reinstated in accordance with the conditions of this consent;

“**first export**” means the date the authorised development first exports electricity to the Grid on a commercial basis;

“**site**” means land within the development boundary;

“**wind turbines**” means the wind turbines forming part of the development and “wind turbine” shall be construed accordingly

"**dB**" refers to the Decibel noise measurement unit;

"**dB(A)**" refers to a Decibel noise measurement unit, with the inclusion of the A-weighting filter in the measurements as referred to in ETSU-R-97;

"**ETSU-R-97**" means the ETSU Report number ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' published in September 1996;

"**LA90**" means the decibel (dB) level exceeded for 90% of each sample period;

"**Local Planning Authority**" means Powys County Council;

"**development**" means the works that are permitted to take place as a result of this permission. This includes;

- a. up to 13 wind turbines each sited, subject to conditions, in locations shown on Figure 4.13 SEI Site Layout contained within 2015 Supplementary Environmental Information, on concrete foundations incorporating hardstandings for cranes and fitted with rotating blades having a hub height of up to 80 metres and a height to blade tip of up to 126.5 metres including transformers.
- b. A series of cables buried beneath the surface of the ground and connecting the wind turbines to the substation.
- c. A series of access tracks between the wind turbines.
- d. A construction, maintenance and emergency site access road.
- e. An anemometry mast.
- f. Borrow pits for the extraction of stone to be used in the construction of the development.

"**emergency**" means circumstances in which there is reasonable cause for apprehending imminent injury to persons, serious damage to property or danger of serious pollution to the environment;

"**NRW**" means Natural Resource Wales, a Welsh government sponsored body and statutory consultee on environmental protection; regulation; and maintenance of natural resources

"**Public Holiday**" means a day that is, or is to be observed as a public holiday;

2. Where under any condition details, a scheme, or a plan are to be submitted for the approval, or confirmation, of the local planning authority then unless the condition provides otherwise:
 - a. those details or scheme or plan and that approval must be in writing;

- b. the approved details, scheme or plan shall be taken to include any amendments that may subsequently be approved in writing by the local planning authority, provided that no amendments may be approved by the local planning authority where such amendments may give rise to any materially different environmental effects to those assessed in the environmental statement.
3. Subject to the conditions attached to this permission, the development shall be carried out in accordance with the following approved plans and documents:
 - a. 2015 SEI:
 - i. Volume 1: SEI Written Statement
 - ii. Volume 2: SEI Supporting Figures
 - iii. Volumes 3A and 3B: SEI Appendices
 - iv. Volume 4: SEI Key Visualisations
 - b. 2010 ES:
 - i. Volume 1: Written Statement
 - ii. Volume 2: Figures and Appendices
 - iii. Volume 3: Visualisations
4. The development hereby permitted shall be begun before the expiration of five years from the date of this approval.
5. Prior to the hereby approved turbines first operating the developer shall complete the construction of the public car park in accordance with the approved Figure 4.13 contained in the 2015 SEI and shall make the car park available for public use within 6 months of the hereby approved turbines first operating.
6. The permission hereby granted shall endure for a period of 25 years from the date of first export. Written confirmation of the first export date shall be sent to local planning authority within one month of the first export date.

Site Recording

7. No development shall commence until all areas that will be disturbed by the development have been photographically recorded and these photos, alongside a plan detailing the precise location and bearing of these photos have been submitted to and approved by the local planning authority in writing.

Site Decommissioning and Restoration

8. At least 24 months prior to the decommissioning of the scheme details and methodologies for a full ecological survey to be undertaken to inform a Site Decommissioning and Restoration Scheme shall be submitted to and agreed in writing by the LPA.
9. Not less than 12 months before the expiry of this permission, a Site Decommissioning and Restoration Scheme shall be submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved and be completed within 12 months from the expiry date of this permission. The scheme shall include, but not be limited to:
 - a. Details of the removal of all the wind turbines and the surface elements of the development plus one metre of the turbine bases below ground level;
 - b. Details of means of removal, including how this will avoid effects on protected species and habitats;
 - c. Phasing of the removal of tracks, structures, buildings and other associated infrastructure;
 - d. Earth moving & soil replacement;
 - e. Restoration of the landscape;
 - f. Reinstatement of public rights of way, paths and footpaths; and
 - g. Monitoring and remedial actions.
10. Prior to the implementation of the Site Decommissioning and Restoration Scheme, a community liaison scheme shall be submitted to and approved in writing by the local planning authority. The community liaison scheme shall be implemented as approved and shall include:
 - a. details of developer liaison with the local community to ensure residents are informed of how the decommissioning of the development is progressing;
 - b. a mechanism for dealing with complaints from the local community during the decommissioning of the development; and
 - c. a nominated representative of the developer who will have the lead role in liaising with local residents and the relevant planning authority.
11. On completion of the restoration work, any remaining fixed equipment, machinery and buildings erected or brought on to the site for the purpose of implementing the Site Decommissioning and Restoration Scheme shall be removed from the site.
12. No movement of traffic associated with any decommissioning of the development shall take place until a traffic management plan dealing with such decommissioning has been submitted and approved in writing by the local planning authority and thereafter the approved TMP shall be implemented.

Turbine Failure

13. In the event of a wind turbine failing to produce electricity to the grid for a continuous period of 6 months or more, other than required by Condition 58, a scheme for the repair or removal of that turbine shall be submitted to the local planning authority for its written approval within 2 months of the end of that 6 month period and implemented within 6 months of approval unless a longer period is agreed in writing by the local planning authority.
14. No abnormal indivisible load movements associated with any repairs or replacement components shall take place during the life of the development until a traffic management plan dealing with such repair and/or replacement has been submitted to and approved in writing by the local planning authority and thereafter the approved TMP shall be implemented.

Development Micro-Siting

15. No development shall commence, excluding tree felling, until a micro-siting protocol has been submitted to and approved in writing by the local planning authority. It shall set out a protocol for deciding on micro siting of all development to minimise the development's impact on, but not limited to, peat, blanket bog habitat, curlew, protected species, watercourses, public rights of way, heritage asset, bats, health and safety and any other identified environmental or engineering constraints. This protocol shall conform to the following criteria:
 - a. It shall be informed by detailed peat assessments carried out in accordance with Condition 47.
 - b. All aspects of the development shall be located within 50m of the locations shown on Figure 4.13 contained within 2015 Supplementary Environmental Information.
 - c. T1, T10, T11, T12, T13, T14 and T15 may be microsited no closer to a public right of way or permissive route than their nearest public right of way or permissive route as shown on Figure 14.3 contained within the 2015 Supplementary Environmental Information.

The micro-siting protocol shall be implemented as approved.

16. Within 3 months of the first export date, a plan showing the exact location of all development (including tracks, hard standings, access areas, turbines, infrastructure routes, borrow pits etc) shall be submitted to and approved in writing by the local planning authority.

Detailed Development Design and Appearance

17. No turbines shall be delivered to site until details of the turbines, including make, model, design, size, transformer location, power rating, the anemometer mast and associated apparatus has been submitted to and approved in writing by the local planning authority. The turbines, anemometer mast and associated apparatus shall be constructed in accordance with the approved details.
18. No turbines shall be erected until the proposed turbine finish and colour has been submitted to and approved in writing by the local planning authority. The turbines shall be constructed in accordance with the approved details.
19. All turbine blades shall rotate in the same direction.
20. No development shall commence until details of the proposed car park and access have been submitted to and approved in writing by the local planning authority. The car park and access shall be constructed in accordance with the approved details.
21. All electricity cables connecting the turbines to the preferred grid connection route as shown in Figure 4.13 of the Supplementary Environmental Information 2015, and other services within the site boundary shall be installed underground and alongside tracks which are constructed on the site as part of the development. Any variation shall be submitted to and approved in writing by the local planning authority before development commences. The development shall be carried out in accordance with the approved details.
22. No development shall commence until details relating to the external treatment, design, materials, and orientation and screening of the on-site substation have been submitted to and approved in writing by the local planning authority. The substation shall be constructed in accordance with the approved details.
23. No development shall commence until details of any permanent outdoor lighting provision have been submitted to and approved in writing by the local planning authority. Any outdoor lighting shall be provided in accordance with the approved details.
24. No symbols, signs, logos or other lettering, other than those required by law for health and safety reasons, shall be displayed on any part of the turbines nor any building or structures without written approval from the local planning authority.

Construction Hours

25. No construction work (other than the delivery of abnormal loads) shall take place outside the hours of 07:30 and 19:30 Monday to Friday inclusive, 07:30 and 13:00 on Saturdays with no construction work at all on Sundays and Public Holidays. Outside these hours, works at the site shall be limited to emergency works, erection of turbines, dust suppression, and the testing and maintenance of plant and equipment, or construction work that is not audible from any noise sensitive property, unless otherwise approved in writing by the local planning authority. The local planning

authority shall be informed in writing of emergency works within three days of occurrence.

26. All activities associated with the construction of the development shall be carried out in accordance with British Standard BS5228:2009: Code of Practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration.

Highways & Transport

27. No on-site development works shall be undertaken until:

- a. an assessment of the capacity and impact on all structures along those parts of the highway network which shall be utilised during the construction of the development including bridges, culverts, retaining walls, embankments; and
- b. details of any improvement works required to such structures as a result of construction of the development;

have been submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority and Powys County council as the local highway authority. The required improvement works identified in the assessment shall be completed prior to the commencement of any Abnormal Indivisible Load (AIL) deliveries to the development site.

28. Adequate provision shall be made within the development to enable vehicles to turn around, so they may enter and leave the site in a forward gear.
29. Condition surveys of all highway features along those parts of the highway network which shall be utilised during the construction of the development shall be undertaken prior to and on completion of the construction phase of the development. The survey reports shall be submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority and Powys County council as the local highway authority within 28 days of the surveys.
30. Prior to the commencement of development works, a scheme to provide for the remediation of any incidental damage directly attributable to the development to the parts of the highway network which will be utilised during the construction of the development including street furniture, structures, highway verge and carriageway surfaces shall be submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority and Powys County council as the local highway authority. The scheme shall be implemented as approved throughout the construction phase of the development.
31. Abnormal Indivisible Loads (AIL's) shall be delivered along the routes specified in Sections 1,2,4,5 of the Strategic Traffic Management Plan for Mid-Wales Wind Farms (the sTMP) dated August 2012 unless the Newtown Bypass is constructed. AILs associated with the development shall be delivered strictly in accordance with a AIL

Management Plan (AILMP) as shall be agreed with the relevant highway authority. In this respect, the TMP shall be submitted to and approved in writing by Welsh Government as Welsh trunk road highway authority and Powys County Council as the local highway authority prior to the commencement of any works. The TMP shall include:

- a. Management of junctions and crossings and any other public rights of way while AIL deliveries take place;
- b. Management and maintenance of layover areas, passing places and welfare facilities while AIL deliveries take place;
- c. Details of temporary signing;
- d. Restrictions of AIL movements during the Royal Welsh Show;
- e. Details of any alterations to any works that are carried out to enable AIL movements proposed to be implemented after such movements;
- f. A review mechanism in light of the construction of the Newtown Bypass.
- g. proposals for transporting AILs from their point of entry into the UK road network to the site that minimises any impact on the safety and free flow of road traffic;
- h. evidence of trial runs that mimic the movement of the worst case AILs along the access route;
- i. number and size of AILs, including loaded dimensions and weights;
- j. number and composition of AIL convoys, including anticipated escort arrangements;
- k. methodology for managing trunk road traffic during AIL deliveries, including identification of passing places and holding areas as necessary;
- l. convoy contingency plans in the event of incidents or emergencies;
- m. estimated convoy journey durations and timings along the route, including release of forecast traffic queues;
- n. swept path analysis modelling the movement of the worst case AILs at all potential horizontal and vertical constraints along the access route;
- o. proposals for the temporary or permanent modification of any affected street furniture along the access route and details of how this would be managed;
- p. plans for the reinstatement of any temporary works after completion of the construction phase;
- q. land ownership must be clarified on all drawings showing proposed highway modifications. The developer shall be responsible for the acquisition and

reinstatement of all third party land including re-instatement of boundary features;

- r. proposals to liaise with all relevant stakeholders (including the relevant highway and planning authorities, Police, members of the public and local communities, hauliers, developers and landowners) prior to the submission of notifications for AIL deliveries and applications for Special Orders for AIL deliveries.
 - s. Means of control of timing of delivery of AIL movements;
 - t. Temporary traffic diversions and traffic hold points;
 - u. Details of banksmen and escorts for abnormal loads;
 - v. consideration of the cumulative impact of other wind farm schemes proposing to use all or part of the same access route and coordination with those schemes where possible.
 - w. The appointment and role of a Transport Coordinator to administer the Abnormal Indivisible Load delivery strategy;
32. AILs associated with the maintenance and decommissioning of the development shall leave the site strictly in accordance with a TMP as shall be agreed with the relevant highway authority. In this respect, the TMP shall be submitted to and approved in writing by Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of any removal, replacement or decommissioning works.
33. No development works shall be undertaken until full details of any highway works associated with the construction of layover areas, passing places and highway improvements as agreed with the relevant highway authority including:
- a. the detailed design of any works;
 - b. geometric layout;
 - c. construction methods;
 - d. drainage; and
 - e. street lighting;

have been submitted to and approved in writing by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate). The highway works shall be completed in accordance with the approved details prior to the commencement of any AIL deliveries to the development site.

34. No construction works shall take place on site until a Construction Traffic Management Plan (CTMP) for non-abnormal indivisible load vehicles has been submitted to and approved in writing by the local planning authority. The approved

Traffic management plan shall thereafter be complied with and will include the following:

- a. Construction vehicle routeing;
 - b. Means of monitoring vehicle movements to and from the site including the use of liveried construction vehicles displaying the name of the developer, the vehicle number and a telephone number for complaints to be logged. The procedures for dealing with complaints must be provided to the local planning authority.
 - c. Timing of vehicle deliveries to the site;
 - d. Proposals for appropriate management of junctions and crossings of highways and other public rights of way on site and between the site and the trunk road network;
 - e. Contractual arrangements for the control of construction traffic offsite and to ensure that complaints and breaches of the TMP requirements are able to be remedied;
 - f. A travel Plan aimed at maximising the use of sustainable travel by the construction workforce associated with the development;
 - g. Vehicle movements during the Royal Welsh Show;
 - h. Communications with members of the public and local communities;
 - i. A review mechanism in light of the Newtown Bypass
35. The applicant shall enter into an Agreement with the Welsh Ministers under Section 278 of the Highways Act 1980 to enable the Applicant to undertake agreed improvement works on the trunk road. This Agreement will contain details of the improvement works, construction conditions and financial arrangements under which agreed measures can be put in place, including indemnifying the Welsh Ministers against third party claims. Without such an agreement in place, any consent that may be granted cannot be implemented.
36. Full details of the highway works associated with the proposed new access onto the trunk road as indicated on the submitted plans including the detailed design, geometric layout, construction and drainage, shall be submitted to and approved in writing by the Welsh Government as Welsh trunk road highway authority prior the commencement of any works on the development site.
37. New or altered accesses onto the trunk road shall be completed to the satisfaction of the Welsh Government as Welsh trunk road highway authority prior to commencement of any works on the development site. The proposed access / junction shall meet the standards required by the DMRB.

38. Full construction details, detailed design drawings and calculations for the foundations and access track shall be submitted to and approved by the Planning Authority in consultation with the Welsh Government before any works commence on site.
39. No drainage from the development site shall be connected to or allowed to discharge into the trunk road drainage system or onto the trunk road carriageway.
40. The applicant shall provide wheel-washing facilities or an alternative method to be approved by the Local Planning Authority in consultation with the Welsh Government at the site exit. Such facilities shall thereafter remain available during the construction stage and be used by all vehicles exiting the site.
41. No development shall take place until detailed plans of all highway works on the C2176 have been submitted to and approved in writing by the local planning authority. The details submitted shall include:
 - a. Drainage details;
 - b. Road markings and signage proposals
 - c. A programme for the implementation of the works

The works shall be implemented in accordance with the approved details.

Construction and Environment Management Plan

42. No development, including site clearance, scrub and vegetation removal and tree felling works, shall commence until a detailed, site specific Construction Environment Management Plan (CEMP) is submitted to and approved in writing by the local planning authority. The CEMP shall cover the periods of site clearance, construction and the restoration of all work areas and shall include detailed method statements, contractor arrangements, reporting and liaison mechanisms between the contractor, Ecological Clerk of Works (ECoW), the local planning authority and NRW, monitoring and contingency proposals for implementation, including:
 - a. A track construction plan including the excavation and make up of internal access roads and hard standing areas, including measures to address silt-laden run-off from any workings, temporary and permanent access roads, soil storage and other engineering operations;
 - b. Working statement (including design and construction) to cover all channel and bank works including all channel crossings;
 - c. A detailed timetable for tree felling, vegetation and site clearance, construction and habitat management up to the commissioning of the turbines and site restoration. The timetable should include potential contingencies for birds and protected species;

- d. Measures to be taken during vegetation and site clearance, tree felling and the construction and restoration periods to protect wildlife and habitats including legally protected species;
- e. The hours of working for all construction activities;
- f. Arrangements for the parking of vehicles of site operatives and visitors;
- g. Arrangements for the loading, unloading and storage of plant and materials used during the construction of the development;
- h. An Environmental Management and Pollution Prevention Plan (to include a water quality monitoring plan, surface water management plan and a drainage management plan) which comprises arrangements to protect groundwater and surface water during site clearance, construction and the restoration phases of development including wet weather contingency measures and an Incident Response Plan in the event of a pollution incident and measures for the storage of materials including soil and its disposal;
- i. Construction arrangements for turbine foundations, access roads and other infrastructure, including concrete batching and dewatering arrangements to treat potentially sediment laden water;
- j. Arrangements for fuel storage and fuelling, the storage and handling of oils and lubricants, and the handling of cement materials to prevent any entry to watercourses and contingency plans in the event of spillage;
- k. Cable laying on the site including the detailed design of the trenches;
- l. Access, signing and re-routing arrangements for recreational users during construction activities;
- m. Construction method statements for the construction works compound and all infrastructure, including their eventual removal and satisfactory reinstatement;
- n. Details and method statements for hedgerows, stone walls and banks that are to be removed and relocated;
- o. Reinstatement of any disturbed ground post construction, including re-vegetation of access track and hardstanding areas, in order to reduce their visual and ecological impact, together with measures to monitor its success;
- p. Emergency site procedures in the event of disturbance or fatality of any otter or badgers;
- q. Arrangements to prevent the spread of non-native invasive species;
- r. Approach to excavated materials;
 - i. Details of approach to borrow pits including: Proposed location, opening, working and reinstatement of on-site borrow pits; and

- ii. No excavation of the borrow pit shall take place below the depth of the water table;
- iii. Details of backfill material for the borrow pits.
- s. Nothing other than uncontaminated excavated natural materials shall be tipped on the site;
- t. Measures to control dust and mud arising from the site including damping down, the provision of wheel washing facilities or alternative method and the sheeting of HGV's taking spoil or construction materials to and from the site;
- u. Measures to clean and maintain the site entrance and the adjacent public highway;
- v. Temporary site illumination including proposed lighting levels together with the specification of any lighting.

The development shall be implemented in accordance with the approved CEMP unless otherwise agreed in writing with the local planning authority.

- 43. Before any wind turbine is removed or replaced a revised Construction Environment Management Plan dealing solely with that removal or replacement shall be submitted to and approved in writing by the Local Planning Authority, and implemented as approved.

Rights of Way

- 44. No development shall commence until a Rights of Way Management Plan (RWMP) has been submitted to and approved in writing by the local planning authority. The RWMP shall be implemented as approved and shall include:
 - a. details of the temporary re-routing of public rights of way during construction of the authorised development;
 - b. details of the provision of signage and other information alerting the public to construction works;
 - c. details of any fencing or barriers to be provided during the construction period;
 - d. details as to how public rights of way, paths and roads will be inspected prior to and monitored during the construction period;
 - e. details of alternative routes for any public rights of way that need to be diverted;
 - f. details of permissive routes to be provided within the site.
 - g. details of improvements to Public Rights of Way within the site.

- h. details of how the RWMP shall not conflict with the ecological provisions contained in the Protected Species Protection Plan, and the Habitat Management Plan.
- i. details of opening and maintenance of all PRow (including repairs to any damage caused at the construction stage) to an acceptable standard
- j. provision of suitable interpretation boards.
- k. Details of a promotional day to be held on site after first export and all PRow improvements on site have been completed.

Forestry

- 45. No development or site clearance (including tree felling) shall take place before a Forestry Management Plan (FMP) has prepared in consultation with NRW and submitted to and approved in writing by the local planning authority. The FMP shall generally accord with the objectives, methodology and scope of the Outline Habitat Management Plan that forms Appendix 8A.5 of the SEI 2015, and include details of the management of tree felling to ensure the objectives of the HMP are not undermined. Forestry Management and tree felling shall be carried out in accordance with the approved Plan.
- 46. Following forestry felling carried out in accordance with Condition 45, a detailed peat depth assessment shall be carried out in all areas where infrastructure may have an impact on peat.

Ecology

- 47. No development shall commence, including vegetation clearance and tree felling, until a suitably qualified Ecological Clerk of Works (ECoW) has been employed. The ECoW shall be appointed at least one month prior to the commencement of any tree felling, site/vegetation clearance works or development. The scope of the ECoW shall include, but not be limited to:
 - a. monitoring compliance with and reporting on the success or failure of the approved mitigation works and in the event of failures advising on remedial mitigation measures;
 - b. advising the developer on the implementation of the approved mitigation proposals and the protection of important nature conservation interests on the site;
 - c. directing and consulting on the micro-siting and placement of turbines, roads and other infrastructure;

- d. monitoring and reporting on the compliance with the Construction Environmental Management Plan (CEMP), peat management plan and other associated environmental plans;
 - e. attending liaison meetings with and reporting compliance with conditions and plans and mitigation measures to PCC and other parties as necessary.
48. No development shall commence until a Peat Management Plan (PMP) incorporating the objectives and measures outlined in the draft PMP contained within the Carno 3 Wind Farm Supplementary Environmental Information 2015 has been submitted to, and approved by the local planning authority. The PMP shall include:
- a. measures to minimize impacts on peatland habitats during site clearance, tree harvesting and construction;
 - b. updated peat probing surveys and peat depth modelling;
 - c. the storage, handling and re-use of all excavated peat;
 - d. a revised peat budget based on a drain survey following tree felling and revised peat excavation volumes;
 - e. Measures for the blocking and/or infilling of drains.

The development shall be implemented in accordance with the approved plan.

49. No development shall commence on-site until a detailed Habitat Management Plan (HMP), setting out detailed nature conservation management objectives including the management of priority habitats and species, and a timetable for its implementation, has been submitted to and approved in writing by the Local Planning Authority, following consultation with NRW. The HMP shall include (but not be limited to) details of the habitat management measures contained set out in Appendix 8.A.4 (Volume 3A) of the August 2015 SEI and the following details:
- a. proposals to minimise adverse effects on peat and ecology;
 - b. the maintenance of existing areas of peatland habitats;
 - c. the maximisation of peat restoration across the site including a minimum area objective where blanket bog restoration and maintenance works will be completed;
 - d. measures to avoid habitat management having significant adverse effects on species using the site;
 - e. methods to be applied to restore the water table to allow restoration and maintenance of blanket bog habitat;
 - f. methods to be applied to restore habitats across the site including grazing and fencing, heather cutting;

- g. a timetable for the implementation and completion of all HMP measures (including tree harvesting);
- h. a scheme to secure the removal of re-seeded conifers and other invasive plants;
- i. measures to implement the provisions of the HMP
- j. measures to monitor that the HMP objectives are being met
- k. a review process to confirm that that the carbon gains achieved from restoration measures proposed within the HMP still balance or outweigh the soil carbon losses due to construction of the wind farm. This review should be carried out after micro-siting is finalised but prior to first export. The review shall utilise the Scottish Government Windfarm Carbon Assessment Tool - Version 2.9.0 and utilise peat data collected during micro-siting,

The development shall be carried out and operated in accordance with the approved HMP.

Shadow Flicker

- 50. Prior to the erection of any wind turbine a scheme shall be submitted to and approved in writing by the local planning authority setting out a protocol for the assessment of shadow flicker in the event of any complaint alleging shadow flicker effects to the local planning authority from the owner or occupier of Trannon Farm. The written scheme shall include remedial measures to alleviate any effects of shadow flicker attributable to the development. Operation of the turbines shall take place in accordance with the approved scheme.

Television Interference

- 51. Prior to the erection of any wind turbine a scheme providing for a baseline survey and the investigation and alleviation of any interference to television reception caused by the operation of the turbines shall be submitted to and approved in writing by the local planning authority. The scheme shall provide for the investigation by a qualified independent television engineer of any complaint of interference with television reception, where such complaint is notified to the developer by the local planning authority. Where impairment is determined by the qualified television engineer to be attributable to the development, mitigation works shall be carried out in accordance with the scheme which has been approved in writing by the local planning authority.

Cultural Heritage

- 52. No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the

applicant and approved by the local planning authority in writing. Thereafter, the programme of work will be fully carried out in accordance with the requirements and standards of the written scheme.

53. All records collated, as a result of the Scheme of Archaeological Investigation, shall be submitted to the local planning authority and sent to the Historic Environment Record (currently held by Clwyd-Powys Archaeological Trust) within 6 months of the record being gathered. The Scheme of Archaeological Investigation will include provision for the publication of results and the long term storage of artefactual remains.

Aviation

54. No wind turbine shall be erected before the following information has been provided to the Defence Geographic Centre of the Ministry of Defence:
- a. the date turbine erection starts and ends;
 - b. the maximum height of construction equipment;
 - c. the latitude and longitude of every turbine.

Community Liaison

55. No development shall commence until a community liaison scheme for the construction period has been submitted to and approved by the local planning authority. The community liaison scheme shall be implemented as approved and include:
- a. details of developer liaison with the local community to ensure residents are informed of how the construction of the development is progressing;
 - b. a mechanism for dealing with complaints from the local community during the construction of the development; and
 - c. a nominated representative of the developer who will have the lead role in liaising with local residents and the relevant planning authority.

Noise

56. Prior to commencement of development, the applicant shall submit evidence to the Local Planning Authority confirming that the applicant/developer has binding provisions in place to ensure Trannon Farmhouse will stay under the control of the applicant/developer for the life of the development. No development shall commence until the Local Planning Authority has provided written confirmation that they content with the evidence provided.
57. No turbine shall be brought into operation before a scheme for the assessment and regulation of Excess Amplitude Modulation (EAM) has been submitted to and approved by the Local Planning Authority. That scheme shall be in general accordance with any guidance endorsed by the Welsh or UK Government at that time; or in the absence of this guidance published by the Institute of Acoustics. Should no guidance be available at the time of condition discharge the scheme shall reflect best practice at that time. The approval scheme shall be implemented for the life of the development.
58. The rating level of noise emissions from the combined effects of the wind turbines (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the values for the

relevant integer wind speed set out in, or derived from, Table 1 attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:

- a. The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). This data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the local planning authority on its request, within 14 days of receipt in writing of such a request;
- b. No electricity shall be exported until the wind farm operator has submitted to the local planning authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the local planning authority;
- c. Within 21 days from receipt of a written request from the local planning authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the local planning authority to assess the level of noise emissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the local planning authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the local planning authority, the noise giving rise to the complaint contains or is likely to contain a tonal component;
- d. The assessment of the rating level of noise emissions shall be undertaken in accordance with an assessment protocol that shall previously, have been submitted to and approved in writing by local planning authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise emissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the local planning authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits;
- e. Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the local planning authority for written approval proposed noise limits selected from those listed in the tables to be adopted at the complainant's dwelling for compliance checking purposes. The proposed noise limits are to be those limits selected

from the Tables specified for a listed location which the independent consultant considers as being likely to experience the most similar background noise environment to that experienced at the complainant's dwelling. The rating level of noise emissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the local planning authority for the complainant's dwelling.

- f. The wind farm operator shall provide to the local planning authority the independent consultant's assessment of the rating level of noise emissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the local planning authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the local planning authority with the independent consultant's assessment of the rating level of noise emissions;
- g. Where a further assessment of the rating level of noise emissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the local planning authority.

Table 1 – Noise limits expressed in dB LA90,10 minute to be applied to Noise from Carno III at all times of Day or Night

House No	Receptor	Noise Limit dB LA90, 10min at standardised wind speeds (m/s) at 10m height						
		4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s
11	Trannon (Financially Involved)	33.6	37.1	40.6	42.6	43.1	43.1	43.1
2	Cwm-mawr	24.3	27.8	31.3	33.3	33.8	33.8	33.8
5	Blaen-y-glyn	25.6	29.1	32.6	34.6	35.1	35.1	35.1
13	Graig Wen (Holiday Home)	26.3	29.8	33.3	35.3	35.8	35.8	35.8
4	Gwernau	27.2	30.7	34.2	36.2	36.7	36.7	36.7
14	Tyn y Sarn	28.7	32.2	35.7	37.7	38.2	38.2	38.2
3	Blaen Cerniog	24.1	27.6	31.1	33.1	33.6	33.6	33.6

Guidance Notes for Noise Condition 58

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise immissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled “The Assessment and Rating of Noise from Wind Farms” (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

Guidance Note 1

(a) Values of the $L_{A90,10 \text{ minute}}$ noise statistic should be measured at the complainant’s property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant’s dwelling. Measurements should be made in “free field” conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The $L_{A90,10 \text{ minute}}$ measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

(d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10 minute arithmetic average mean wind speed data measured at hub height shall be ‘standardised’ to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10 metre height wind speed data, which is correlated with the noise measurements determined as valid in accordance with

Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10- minute increments thereafter.

(e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

(f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

Guidance Note 2

(a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b)

(b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90,10 minute noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

(a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise immissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

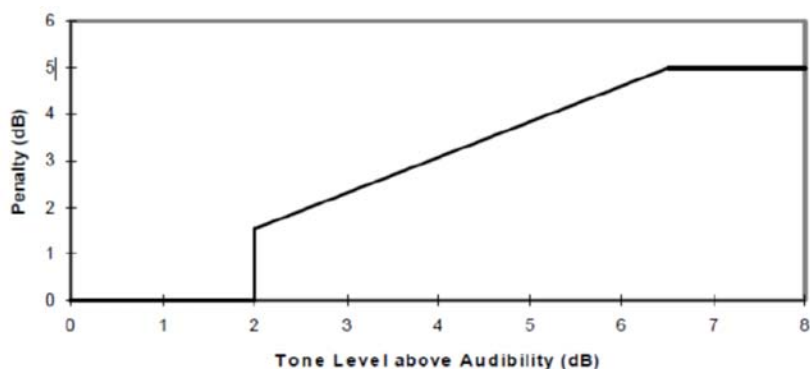
(b) For each 10 minute interval for which LA90,10 minute data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

(c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104109 of ETSU-R-97.

(d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.

(e) A least squares “best fit” linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the “best fit” line at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.

(f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



Guidance Note 4

(a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

(b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

(c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant’s dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.

(d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

(e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

(f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[10^{L_2/10} - 10^{L_3/10} \right]$$

(g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.

(h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.

Informatives

The applicant shall undertake a Road Safety Audit of the scheme (Stages 1 – 4) in accordance with the Design Manual for Roads and Bridges HD 19/15. The applicant shall agree the required measures with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of works on site.

The applicant should be advised that they may be required to enter into an agreement with the Welsh Ministers under Section 278 of the Highways Act 1980 / Section 23 of the New Roads and Street Works Act 1991 to enable the applicant to undertake agreed improvement works on the trunk road. This Agreement will contain details of the improvement works, construction conditions and financial arrangements under which agreed measures can be put in place, including indemnifying the Welsh Ministers against third party claims. Without such an agreement in place, any consent that may be granted by the Planning Authority cannot be implemented.

The applicant should be advised that all temporary or permanent signage, road markings or traffic orders shall be at the expense of the developer and agreed with the Highway Authority before works commence.

Any adjustment, re-siting and / or protection of any statutory undertakers apparatus in the highway shall be undertaken with the prior written consent of the relevant Authority and shall be carried out at the Applicant's own expense.

The applicant should note that planning permission does not constitute permission under the Highways Act for various activities that may be associated with the development i.e. use of the highway/footway/verge to: for example; deposit material, deposit skips, erect scaffolding, excavate within the highway or erect traffic management apparatus. Such activities will require the separate consent of the Highway Authority;

Any temporary traffic management arrangements required in connection with this application shall be in accordance with Chapter 8 of the Traffic Signs Manual and in accordance with the Safety at Street Works and Road Works Code of Practice, and shall be approved by the highway authority.

Road traffic signs in Wales must be bilingual, Welsh above English, and adhere to Welsh Government specifications, see following link for standard details; http://www.traffic-wales.com/traffic_signs.aspx

Reasons for conditions

1. For the avoidance of doubt.
2. For the avoidance of doubt.
3. For the avoidance of doubt and to ensure the development is built as approved.
4. For the avoidance of doubt.

5. To ensure the impacts of the development on the public right of way network are mitigated.
6. To establish the duration of this permission.
7. To provide a baseline upon which the site will be restored to after decommissioning has occurred.
8. To ensure the ecological impacts of decommissioning are minimised.
9. To ensure the site is restored to its former condition after decommissioning occurs.
10. To ensure the community are informed and involved in the decommissioning and restoration of the site.
11. To ensure the site is restored to its former condition after decommissioning occurs.
12. To ensure the highway impacts associated with decommissioning and restoration are controlled and acceptable.
13. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
14. To ensure the highway impacts associated with repairs or replacement of turbines are controlled and acceptable.
15. To allow micro-siting of the development whilst ensuring the impacts of the proposed development remain acceptable.
16. To maintain a record of the as built development to inform the LPA.
17. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
18. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
19. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
20. To ensure the car park, including its access, is provided to an acceptable standard and compatible with the local environment.
21. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
22. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
23. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
24. In order to manage the visual impact of the proposed development to an acceptable level, in accordance with policies E3, E4, ENV2 and ENV3 of the Powys Unitary

- Development Plan (2010), Technical Advice Note 8: Planning for Renewable Energy (2005) and Planning Policy Wales (2012).
25. In order to protect the amenity of the locality, in accordance guidance contained within Planning Policy Wales (Edition 8, February 2016) and policies SP12, GP1 and E3 of the Powys Unitary Development Plan (2010).
 26. In order to protect the amenity of the locality, in accordance guidance contained within Planning Policy Wales (Edition 8, February 2016) and policies SP12, GP1 and E3 of the Powys Unitary Development Plan (2010).
 27. To maintain the safety and free flow of traffic on the affected highway network.
 28. To maintain the safety and free flow of traffic on the affected highway network.
 29. To maintain the condition of the affected highway network in the interest of public safety.
 30. To maintain the condition of the affected highway network in the interest of public safety.
 31. To maintain the safety and free flow of traffic on the affected highway network.
 32. To maintain the safety and free flow of traffic on the affected highway network during decommissioning.
 33. To maintain the condition of the affected highway network in the interest of public safety.
 34. To maintain the safety and free flow of traffic on the affected highway network.
 35. To ensure works to the trunk road network are carried out in accordance with the Highway Act 1980.
 36. To maintain the safety and free flow of traffic on the affected highway network.
 37. To maintain the safety and free flow of traffic on the affected highway network.
 38. To ensure access tracks are constructed to an acceptable standard.
 39. To maintain the safety and free flow of traffic on the affected highway network.
 40. To maintain the safety and free flow of traffic on the affected highway network.
 41. To maintain the safety and free flow of traffic on the affected highway network.
 42. To ensure a satisfactory level of environmental protection.
 43. To ensure a satisfactory level of environmental protection during decommissioning.
 44. In order to manage impacts on the public right of way network are managed to an acceptable level.
 45. In the interest of ecology.
 46. In the interest of ecology.
 47. In the interests of ecology and peat.
 48. In the interests of ecology and peat.
 49. In the interest of nature conservation.
 50. In the interests of residential amenity at Trannon Farmhouse.
 51. In the interests of residential amenity in the locality.
 52. To secure preservation by record of all archaeological remains which will be impacted by the development.
 53. To secure preservation by record of all archaeological remains which will be impacted by the development.
 54. In the interest of aviation safety and national security.
 55. In the interest of the amenity of local people during the construction stage.
 56. To ensure that the occupiers of Trannon Farmhouse have a financial interest in the proposed development for the life of the development and to manage noise levels to an acceptable level.
 57. In order to manage noise levels to an acceptable level in order to protect the amenity of nearby residents, in accordance guidance contained within Planning Policy Wales (Edition 8, February 2016), Technical Advice Note 11: Noise (October 1997) and policies SP12, GP1 and E3 of the Powys Unitary Development Plan (2010).

58. In order to manage noise levels to an acceptable level in order to protect the amenity of nearby residents, in accordance guidance contained within Planning Policy Wales (Edition 8, February 2016), Technical Advice Note 11: Noise (October 1997) and policies SP12, GP1 and E3 of the Powys Unitary Development Plan (2010).
59. In order to manage noise levels to an acceptable level in order to protect the amenity of nearby residents, in accordance guidance contained within Planning Policy Wales (Edition 8, February 2016), Technical Advice Note 11: Noise (October 1997) and policies SP12, GP1 and E3 of the Powys Unitary Development Plan (2010).

The following are statutory consultee responses as referred to on page 2 of the Update.

WG HIGHWAY

Adran yr Economi, Gwyddoniaeth a Thrafnidiaeth
Department for Economy, Science and Transport



Llywodraeth Cymru
Welsh Government

Jayne Foxley
Development Control
Powys County Council
The Gwalia
Ithon Road
Llandrindod Wells
Powys
LD1 6AA

13 scene

Eich cyf . Your ref P/2010/0762
Ein cyf . Our ref

14 October 2015

Dear Ms Foxley

**Land adjacent to Carno Wind Farm, Carno, Powys.
Wind Energy development comprising 18 wind turbines, transformer housing,
upgrading of existing access tracks, main access road alterations, underground cable
route, borrow pits and construction compound areas.**

I refer to your consultation of 23 September 2015 regarding the above planning application and advise that the Welsh Government as highway authority for the trunk road network directs that any permission granted by your authority shall include the following conditions:

1. No on-site development works shall be undertaken until:
 - a. an assessment of the capacity and impact on all structures along those parts of the highway network which shall be utilised during the construction of the development including bridges, culverts, retaining walls, embankments; and
 - b. details of any improvement works required to such structures as a result of construction of the development;

have been submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate). The required improvement works identified in the assessment shall be completed prior to the commencement of any Abnormal Indivisible Load (AIL) deliveries to the development site.

2. Condition surveys of all highway features along those parts of the highway network which shall be utilised during the construction of the development shall be undertaken prior to, during and on completion of the construction phase of the development. The survey reports shall be submitted to and approved by the local planning authority following



BUDDSODDWR MEWN POBL
INVESTOR IN PEOPLE

Sarn Mynach
Cyffordd Llandudno
LL31 9RZ

Sarn Mynach
Llandudno Junction
LL31 9RZ

Ebost.Email: NorthandMidWalesDevelopmentControlMailbox@Wales.GSI.Gov.UK

consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) within 28 days of the surveys.

3. Prior to the commencement of development works, a scheme to provide for the remediation of any incidental damage directly attributable to the development to the parts of the highway network which will be utilised during the construction of the development including street furniture, structures, highway verge and carriageway surfaces shall be submitted to and approved by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate). The scheme shall be implemented as approved throughout the construction phase of the development.
4. AILs associated with the development shall be delivered strictly in accordance with a Traffic Management Plan (TMP) as shall be agreed with the relevant highway authority. In this respect, the TMP shall be submitted to and approved in writing by Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of any works. The TMP shall include:
 - a. proposals for transporting AILs from their point of entry to the Welsh trunk road network to the site that minimise any impact on the safety and free flow of trunk road traffic;
 - b. evidence of trial runs that mimic the movement of the worst case AILs along the access route;
 - c. number and size of AILs, including loaded dimensions and weights;
 - d. number and composition of AIL convoys, including anticipated escort arrangements;
 - e. methodology for managing trunk road traffic during AIL deliveries, including identification of passing places and holding areas as necessary;
 - f. convoy contingency plans in the event of incidents or emergencies;
 - g. estimated convoy journey durations and timings along the route, including release of forecast traffic queues;
 - h. swept path analysis modelling the movement of the worst case AILs at all potential horizontal and vertical constraints along the access route;
 - i. proposals for the temporary or permanent modification of any affected street furniture along the access route and details of how this would be managed;
 - j. plans for the reinstatement of any temporary works after completion of the construction phase;
 - k. land ownership must be clarified on all drawings showing proposed highway modifications. The developer shall be responsible for the acquisition and reinstatement of all third party land including re-instatement of boundary features;
 - l. proposals to liaise with all relevant stakeholders and members of the public regarding construction traffic and AIL movements;
 - m. consideration of the cumulative impact of other wind farm schemes proposing to use all or part of the same access route.
5. AILs associated with the maintenance and decommissioning of the development shall leave the site strictly in accordance with a TMP as shall be agreed with the relevant highway authority. In this respect, the TMP shall be submitted to and approved in writing by Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of any removal, replacement of decommissioning works.

6. No development works shall be undertaken until full details of any highway works associated with the construction of layover areas, passing places and highway improvements as agreed with the relevant highway authority including:
 - a. the detailed design of any works;
 - b. geometric layout;
 - c. construction methods;
 - d. drainage; and
 - e. street lighting;
7. have been submitted to and approved in writing by the local planning authority following consultation with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate). The highway works shall be completed in accordance with the approved details prior to the commencement of any AIL deliveries to the development site.
8. No development works shall be undertaken until the developer demonstrates rights of access to all proposed works that are not part of the highway network to the satisfaction of the local planning authority.
9. The applicant shall enter into an Agreement with the Welsh Ministers under Section 278 of the Highways Act 1980 to enable the Applicant to undertake agreed improvement works on the trunk road. This Agreement will contain details of the improvement works, construction conditions and financial arrangements under which agreed measures can be put in place, including indemnifying the Welsh Ministers against third party claims. Without such an agreement in place, any consent that may be granted cannot be implemented.
10. Full details of the highway works associated with the proposed new access onto the trunk road as indicated on the submitted plans including the detailed design, geometric layout, construction and drainage, shall be submitted to and approved in writing by the Welsh Government as Welsh trunk road highway authority prior the commencement of any works on the development site.
11. New or altered accesses onto the trunk road shall be completed to the satisfaction of the Welsh Government as Welsh trunk road highway authority prior to commencement of any works on the development site.
12. The proposed access / junction shall meet the standards required by the DMRB.
13. Full construction details, detailed design drawings and calculations for the foundations and access track shall be submitted to and approved by the Planning Authority in consultation with the Welsh Government before any works commence on site.
14. The developer shall submit detailed design drawings and calculations, prepared by a Geotechnical consultant in accordance with DMRB – “Managing Geotechnical Risk” to the LPA in consultation with the Welsh Government.
15. Adequate provision shall be made within the development to enable vehicles to turn around, so they may enter and leave the site in a forward gear.

16. No drainage from the development site shall be connected to or allowed to discharge into the trunk road drainage system or onto the trunk road carriageway.

17. The applicant shall provide wheel-washing facilities or an alternative method to be approved by the Local Planning Authority in consultation with the Welsh Government at the site exit. Such facilities shall thereafter remain available during the construction stage and be used by all vehicles exiting the site.

The above conditions are included to maintain the safety and free flow of trunk road traffic.

The following points should be brought to the attention of the applicant:

- a) The applicant shall undertake a Road Safety Audit of the scheme (Stages 1 – 4) in accordance with the Design Manual for Roads and Bridges HD 19/15. The applicant shall agree the required measures with the Welsh Government as Welsh trunk road highway authority or other relevant highway authority (as appropriate) prior to the commencement of works on site.
- b) The applicant should be advised that they may be required to enter into an agreement with the Welsh Ministers under Section 278 of the Highways Act 1980 / Section 23 of the New Roads and Street Works Act 1991 to enable the applicant to undertake agreed improvement works on the trunk road. This Agreement will contain details of the improvement works, construction conditions and financial arrangements under which agreed measures can be put in place, including indemnifying the Welsh Ministers against third party claims. Without such an agreement in place, any consent that may be granted by the Planning Authority cannot be implemented.
- c) The applicant should be advised that all temporary or permanent signage, road markings or traffic orders shall be at the expense of the developer and agreed with the Highway Authority before works commence.
- d) Any adjustment, re-siting and / or protection of any statutory undertakers apparatus in the highway shall be undertaken with the prior written consent of the relevant Authority and shall be carried out at the Applicant's own expense.
- e) The applicant should note that planning permission does not constitute permission under the Highways Act for various activities that may be associated with the development i.e. use of the highway/footway/verge to: for example; deposit material, deposit skips, erect scaffolding, excavate within the highway or erect traffic management apparatus. Such activities will require the separate consent of the Highway Authority;
- f) Any temporary traffic management arrangements required in connection with this application shall be in accordance with Chapter 8 of the Traffic Signs Manual and in accordance with the Safety at Street Works and Road Works Code of Practice, and shall be approved by the highway authority.

- g) Road traffic signs in Wales must be bilingual, Welsh above English, and adhere to Welsh Government specifications, see following link for standard details;
http://www.traffic-wales.com/traffic_signs.aspx

If you have any further queries, please forward to the following Welsh Government Mailbox
NorthandMidWalesDevelopmentControlMailbox@Wales.GSI.Gov.UK.

Yours sincerely

Alun Wyn Jones



Llywodraeth Cymru
Welsh Government

Plas Carew, Uned 5/7 Cefn Coed
Parc Nantgarw, Caerdydd CF15 7QQ
Ffôn 01443 33 6000 Ffacs 01443 33 6001
E-bost cadw@cymru.gsi.gov.uk
Gwefan www.cadw.cymru.gov.uk

Plas Carew, Unit 5/7 Cefn Coed
Parc Nantgarw, Cardiff CF15 7QQ
Tel 01443 33 6000 Fax 01443 33 6001
Email cadw@wales.gsi.gov.uk
Web www.cadw.wales.gov.uk

Powys County Council

Planning.services@powys.gov.uk

Eich cyfeirnod
Your reference

P/2010/0762

Ein cyfeirnod
Our reference

AB

Dyddiad
Date

15 October 2015

Llinell uniongyrchol
Direct line

01443 336007

E-bost
Email:

AMadminplanning@wales.gsi.gov.uk

Dear Sir/Madam,

CARNO WIND FARM EXTENSION- SUPPLEMENTARY ENVIRONMENT INFORMATION

Thank you for your letter of 23 September 2015 inviting Cadw's comments on the above.

Cadw's role in the planning process is to provide the local planning authority with an assessment concerned with the likely impact that the proposal will have on scheduled monuments or registered historic parks and gardens. It is a matter for the local planning authority to then weigh Cadw's assessment against all the other material considerations in determining whether to approve planning permission, including issues concerned with listed buildings and conservation areas.

Having reviewed the supplementary environmental information submitted for the Carno Wind Farm Extension Phase III we concur with the conclusions of the written statement in relation to potential impacts on the historic environment. The total number of turbines having been reduced from a maximum of 18 turbines to a maximum of 13 will help reduce the overall visual impact of the scheme, particularly the impacts on Caersws Basin and Clywedog Valley Registered Historic Landscapes.

The wind farm extension has been assessed as having a moderate effect on views from Pen y Crogben Roman Signal Station (MG106) along with four other monuments; the late prehistoric hillforts of Dinas Camp (MG020), Cefn Carnedd (MG016), Pen y Gaer (MG085) and Pen Y Clun (MG031). These impacts require some weight in the determination of the application but do not raise significant concerns in themselves.

It is clear from the assessment of cumulative effects (table 12.20) that many of the upland scheduled ancient monuments which retain panoramic views (mostly prehistoric funerary, ritual or defensive settlement sites) are adversely affected by the numerous existing wind farm schemes in this area. These represent a particular distraction where turbine blades break the skyline as illustrated in VP17 (volume 4) which shows views from Pen y Crogben. However, the additional turbines proposed in

Mae'r Gwasanaeth Amgylchedd Hanesyddol Llywodraeth Cymru (Cadw) yn hyrwyddo gwaith cadwraeth ar gyfer amgylchedd hanesyddol Cymru a gwerthfawrogiad ohono.

The Welsh Government Historic Environment Service (Cadw) promotes the conservation and appreciation of Wales's historic environment.

Rydym yn croesawu gohebiaeth yn Gymraeg ac yn Saesneg.
We welcome correspondence in both English and Welsh.



BUDDSODDWR MEWN POBL
INVESTOR IN PEOPLE



this application are unlikely to increase this effect substantially with the distance between the development area and many of the monuments affected helping to mitigate negative effects to some extent.

As highlighted in previous comments on this proposal, whilst Cadw notes that no scheduled ancient monuments are impacted upon directly by the proposed wind farm and turbine layout, the access tracks and in particular the proposed grid connection approaching the farm from the north (as illustrated on Figure 4.13 - SEI Layout 13 turbines) do lie close to various statutorily protected ancient monuments. Particular among these are: Esgair Draenllwyn Round Cairns I and II, Stone Setting and Bryn yr Aran Stone Setting (scheduled ancient monuments MG294, MG295, MG297 and MG296 respectively). It is imperative that any potential impacts on these sites are avoided, and that the proposed mitigation – that of securely marking the sites before work starts as an exclusion zone – is followed.

In conclusion, our view is that the overall effect of the Carno III Wind Farm Extension would not result in a significant effect on the historic environment.

Yours sincerely

Nichola Davies
Diogelu a Pholisi/ Protection and Policy



11 November 2015

Ms Jayne Foxley
Development Management
Powys County Council
The Gwalia
Ithon Road
Llandrindod Wells
Powys
LD1 6AA

Dear Ms Foxley

[P/2010/0762 - SEI for Wind Farm of 13 Turbines on land adjacent to Carno Wind Farm, Carno, Powys \(Carno III\)](#)

Thank you for the consultation on the Supplementary Environmental Information submitted in support of this application. We note the contents of the SEI and our comments focus on the information supplementing the original ES including Section 12 of the Written Statement in conjunction with Appendix 12 and the relevant figures and plans. The primary advice regarding scheduled monuments and registered parks and gardens will be supplied by Cadw separately.

Direct Impacts

There are no significant direct impacts to designated or non-designated archaeological sites. The potential for direct impacts to previously unrecorded archaeology have been addressed in the original ES mitigation statement and archaeological monitoring of the soil stripping for new access tracks, cable trenches, turbine and hard standing bases, borrow pits, the substation, grid connection and any other significant areas of ground disturbance should be completed in accordance with a suitable condition. In this case the typical condition for a scheme of archaeological investigation would be:

Suggested planning condition to facilitate a scheme of archaeological investigation as a condition of consent

No development shall take place within the application area until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation, which has been submitted by the applicant and approved in writing by the Local Planning Authority.

The archaeological programme of work will be undertaken and completed in accordance with the relevant Standards and Guidance promoted by the Chartered Institute for Archaeologists. A



copy of the resulting report should be submitted to the Local Planning Authority and the Development Control Archaeologist, Clwyd-Powys Archaeological Trust (41 Broad Street, Welshpool, Powys, SY21 7RR Email: markwalters@cpat.org.uk Tel: 01938 553670). After approval by the Local Planning Authority, a copy of the report and resulting archive should also be sent to the Historic Environment Record Officer, Clwyd-Powys Archaeological Trust for inclusion in the regional Historic Environment Record.

Reason: To secure preservation by record of all archaeological remains which will be impacted by the development

Indirect Impacts

The revised scheme of 13 turbines, with turbines 7, 9, 16, 17, 18 removed, has slightly decreased the overall visual impact of the scheme individually and cumulatively with other consented wind projects in the area. The removal of turbines 16, 17 and 18 in particular has further improved the minimal visual impact of the scheme on the Caersws Basin historic landscape that we predicted from the information supplied with the original ES.

In addition the ASIDOHL assessment concludes that the overall significance of effect for the Caersws Basin HL is Slight and we would agree with this given the extended distance over which turbines would be visible from the registered landscape. This is supported by the visualisations in Vol.4 and particularly VP4 from within the basin itself.

The overall significance of effect for the Clywedog HL is Moderate. There is no doubt that there is an increased visual impact upon the Clywedog landscape from these turbines due to their closer proximity and size. This is particularly noticeable from elevated positions (VP 17 Penycrocbren) and even at slightly lower elevations with more restricted views (VP 13 Clywedog). Powys CC will need to weigh up whether the slightly increased clustering with the Carno I and II wind farms at the southern end, along with the greater visual prominence of Carno III from the Clywedog registered landscape, warrants an objection on landscape grounds in conjunction with any wider landscape issues and comments that NRW may wish to make.

One listed building receives a moderate significance of effect from the development, but this building is well screened by surrounding trees and its primary view looks away from the wind farm. We would not consider this impact to be significant.

Grid Connection

It is unclear how viable this wind farm scheme is now that the combined National Grid/Scottish Power Mid Wales Wind Farm Connections scheme has collapsed after the combined wind farm public inquiry. The future of the Cefn Coch substation proposal is presumably now in question and without this an entirely new overhead line route would need to be devised.

YMDDIRIEDOLAETH
ARCHAEOLEGOL
CLWYD-POWYS
41 Stryd Lydan
Y Trallwng
Powys
SY21 7RR



CLWYD-POWYS
ARCHAEOLOGICAL
TRUST
41 Broad Street
Welshpool
Powys
SY21 7RR

+44 (0) 1938 553670 • www.cpat.org.uk

We note the cultural heritage assessment completed so far for the grid connection, the lack of significant direct or indirect impacts, and approve the mitigation suggested which would be driven by a similar condition to that suggested above. Further clarification is required on the intended grid connection if Cefn Coch is not taken forward by Scottish Power and the Trust would wish to comment on any archaeological reports produced during further assessment of alternative routes.

Conclusions

To sum up it is clear that there are no significant direct or indirect impacts predicted in the ES. There is an increased visual intrusion from a distance upon the Clywedog Valley RHL and this should be taken into account by Powys CC when determining the application with regard to the relevant policies on landscape impacts (Powys UDP ENV 16).

The mitigation proposed in the ES for potential direct impacts to previously unrecorded archaeology should be taken forward and a suitable condition has been supplied above.

Yours sincerely

Mark Walters
Development Control Archaeologist, Curatorial Section



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

Ein cyf/Our ref: CAS-10910-N5N8
Eich cyf/Your ref: P/2010/0762

Llwyn Brain
Ffordd Penlan
Parc Menai
Bangor
Gwynedd LL57 4DE

Ebost/Email:
angharad.crump@cyfoethnaturiolcymru.gov.uk
Ffôn/Phone: 03000 655 232

Ms Jayne Foxley,
Development Management,
Powys County Council,
The Gwalia,
Ithon Road,
Llandrindod Wells,
Powys.
LD1 6AA

11/12/15

Dear Ms Foxley,

Proposal	Wind Energy Development comprising 18 wind turbines Transformer housing, one anemometer mast, new access tracks, substation, control building, crane hardstandings, upgrading of existing access tracks, main access road alterations, underground cable route, borrow pits and construction compound areas
Location	Land adjacent to Carno Wind Farm, Carno, Powys

Thank you for consulting Natural Resources Wales on the Supplementary Environmental Information (SEI) for the Carno Wind Farm Phase 3 development. We note that the proposed development is now for 13 turbines rather than the 18 as stated in the consultation title.

NRW would not object to permission being granted for this proposal providing that issues pertaining the following can be addressed:

- i) **Curlew**
- ii) **Nightjar**
- iii) **Peat**
- iv) **Bats**

Our detailed comments are set out in Annex 1. It is considered that much of the matters raised can be delivered through the preparation and approval of a Construction Environmental Management MP, revision of the Habitat Management Plan and revision of the Protected Species Protection Plan. Further detail is outlined in Annex 1

We have also considered the impact of this scheme on the following registered historic landscapes: The Clywedog Valley Landscape of Historic Interest (LOHI), Caersws Basin (LOHI) and Upland Ceredigion (LOHI). The level of impact on the historic landscapes was not deemed of sufficient significance to lead to our objection. Our detailed rationale is outlined in Appendix 1.

If you require any further information or wish to discuss our comments, please do not hesitate to contact us.

Yours Sincerely *Angharad*

Wyn Crump Angharad Wyn

Crump MRTPI
Uwch Swyddog Cadwraeth / Senior Conservation Officer
Gwasanageth CYnghori Cynllunio Datblygu /
Development Planning Advisory Service

Annex 1

1. General

- 1.1 Since the submission of the application in 2010, NRW has provided further verbal advice to the applicant as well as written advice to Powys County Council including the comments provided in our letter dated 10th August 2013 which has been included in Appendix 3A.3 of the submission. This advice was provided when the proposal was for the siting of a total of 18 turbines.

2. Landscape

- 2.1 NRW's landscape review relates to its visual effects upon the character of the registered historic landscapes within the vicinity of the development. These include the Clywedog Valley Landscape of Historic Interest (LOHI), Caersws Basin LOHI and Upland Ceredigion LOHI.
- 2.2 The original scheme for 18 turbines 126m high to rotor tip was amended to 13 and reassessed by the Supplementary Environmental Assessment. The revision to the proposal is the result of Powys County Council's Landscape Consultant's advice to modify the development to help reduce the extent of significant landscape and visual effects.
- 2.3 The site lies adjacent to TAN8 Strategic Search Area B and within Zone 17 of the 'Local refinement of TAN 8 Strategic Search Areas B and C' prepared by ARUP in 2008 for Powys County Council.

- NRW's review

- 2.4 The Caersws Basin LOHI at 7.0km to the nearest turbine where blade tips would just interrupt the skyline, and would be unlikely to experience significant effects. Similarly the grid connection at 6.7km distance from the LOHI would be unlikely to result in significant effects.
- 2.5 The Clywedog Valley LOHI at 0.85km to the nearest turbine, with its open uplands and accessibility to the area would allow several views within which the development and historic landscape would be intervisible with each other. LVIA (SLR) viewpoints 13, 14, 16, 17, 18 and 20 have been used in our assessment, but we note that there is potential for additional views, particularly sequential views from the Dylife mountain road, Glyndwr's way and scenic trail from the Clywedog Dam.

- Historic landscape baseline

- 2.6 Our review of the LANDMAP historic landscape aspect area assessments indicate that the northern reaches of the Clywedog Valley LOHI is of county/regional value and the valley slopes of the Clywedog Reservoir are largely of local value. The assessment of several criteria including integrity, survival and condition indicate that LVIA views 16, 17, 18 and 20 experience an historic landscape with diffuse medieval and later agricultural influences / medieval agriculture and mining remains, with a not easily understood visible pattern and an area retaining only some of its original character. Carno 1 and 2 wind development associated with TAN 8 SSA B has an established presence within viewpoints 17, 18 and 20, becoming less distinct with distance.
- 2.7 The southern extent of the area experienced within LVIA views 13 and 14 has thinly spread historic content/ little historic interest/ features degraded by agriculture. Whilst the

Clywedog Reservoir is distinctive feature, it is not considered by LANDMAP to be particularly historically significant. Carno 1 and 2 is just apparent from these viewpoints.

2.8 The LANDMAP cultural landscape aspect assesses the area to have a rich historical past now dominated by 20th Century infrastructure of the reservoir and visual intrusion of wind turbines. As outlined above, wind development does influence the Clywedog Valley LOHI, but is not a universal or prominent influence throughout the area.

2.9 In summary the historic landscape relevant to the visual effects of Carno 3 includes areas of county and local value, where the combination of diffuse, few or degraded historic elements results in an area where overall, with the exception of discrete mining remains and associated settlement, historic character is not strongly expressed. The moderate conservation value of the historic landscape, dispersed infrequent nature of elements referred to in the LOHI description on the register and wind farm development influences within the uplands above Penffordd- Las, leads us to consider the area's sensitivity to change from wind development is Medium.

- **Effects of Carno 3**

2.10 The submitted LVIA (SLR) indicates that significant landscape character and visual amenity effects would occur within the Clywedog Valley resulting in a significant change to the perceptions of the landscape in regards to aesthetics and visual enjoyment of the landscape.

2.11 The visual effects upon Historic landscapes are considered differently and in relation to how development would impact upon the functional and visual connections between elements (essential settings and historic views points; visual connections which could be blocked or impaired; the creation of inappropriate visual connections by removing barriers between elements not intended to be intervisible) and upon the existing historic character of the area (perceptions in regards to the development's effect upon the area's historic sense of place – whether this is distinctive or weak; what principle historic periods of development and land use inform this; the degree to which modern interventions are a visible and a defining characteristic; and the rate of change taking place in the area).

2.12 The ASIDHOL2 assessment in support of the application considers the visual effects of Carno 3 on the functional and visual connections between elements, but provides less discussion as to the effects upon the historic character.

2.13 From our assessment based upon the LVIA viewpoints and visualisations we consider Carno 3 would introduce a modern development along the skyline of the Trannon Plateau to the north and west of the LOHI. Where seen within the context of Carno 1 and 2 it would share similar development characteristics, however due to height differences and closer proximity to viewpoints would have greater presence and prominence and be seen to extend the presence of wind development within the view. For LVIA viewpoints 17, 18 and 20 we consider the proposal would have a substantial magnitude of change reducing to Slight (magnitude reducing with viewing distance). The effect would be significant at viewpoint 17 and 18.

2.14 Within LVIA viewpoints 13 and 14 we consider the proposal would have a moderate magnitude of change which would not be significant.

- **Conclusion**

- 2.15 We have identified significant effects upon the Clywedog Valley Historic Landscape of Historic Interest within the upland area above Penffordd- Las, with effects below this threshold elsewhere. The extent of this effect would be relatively limited in relation to the area as a whole and therefore do not object to the proposed development in terms of protected landscapes.
- 2.16 The site lies adjacent to TAN8 Strategic Search Area B and within Zone 17 of the 'Local refinement of TAN 8 Strategic Search Areas B and C prepared by ARUP in 2008 for Powys County Council.

3. Ornithology

- 3.1 We have considered the information included in the ES and the Protected Species Protection Plan included as Appendix 9A.28. Our comments on ornithological issues are as follows:

- **Breeding curlew**

- 3.2 Construction disturbance to breeding curlew is likely to occur within 800m of curlew breeding territories. Therefore no construction must take place within 800m of the breeding territories between 15th February and the end of July.
- 3.3 Please note that NRW consider the start of the breeding season for Curlew to be 15th February, rather than the start of March as noted in the submission, as birds can reappear on their breeding grounds as early as mid-February. If any curlew are observed returning to the site on or after 15th February, then a construction exclusion buffer zone of 800m should be observed around any nesting territory that has been occupied within the last two years. This mitigation needs to be included in the Protected Species Protection Plan.

Advice on breeding season is mixed, both RSPB and Welsh Government Glastir advice state April to end of July, and the planning condition for Carno II Wind Farm stated 1st April to end of June as the breeding season for curlew. We would like to request clarity on why Natural Resources Wales' advise that the season begins much earlier.

Currently, as paragraph 3.3 is worded, any condition relating to this paragraph, would require possession of two years of preconstruction curlew territory data immediately prior to construction so that the breeding territories in the past two years can be identified. This would require surveys in each season and involve three to four visits per breeding season. Then, if construction were to take place during the breeding season, buffer exclusion zones would be required around all historic nest sites (previous 2 yrs) if any curlew were noted on site. Whilst this is not too onerous at present, given the limited number of nest sites identified in recent years (1 in past three years), and as construction is likely to be delayed until post 2019, the potential remains for additional nest sites to be identified in the intervening period. In addition, given the lack of any suggested feedback mechanism during a breeding season this could seriously impact construction programming. As such, we suggest rewording of the above comment in any proposed condition, and would look to change 'any curlew' to 'curlew displaying breeding or territorial behaviour' and change 'any nesting territory that has been occupied within the last two years' to 'the current territory or nearest historic nesting territory identified within that part of the site if no current territory is readily identifiable' and also provide a mechanism to remove exclusions from historic nest sites if curlew are observed to return but subsequent survey identifies no breeding. Therefore, we would accept an exclusion buffer zone agreed with NRW but only for the nesting territory of a breeding pair. We respectfully request that we could have sight of the wording of a draft condition relating to this to ensure that the mitigation proposed can be achievable.

- **Nightjar**

- 3.4 The ES states 9.21.1.1.1 "*however turbines will have little to no potential to mask nightjar churring when they are not rotating. Turbines are less likely to be rotating during the peak churring season May – July as wind speeds are typically lower at this time of year. Therefore any unmitigated effects are considered to be of low magnitude and therefore not significant*"
- 3.5 NRW do not agree with this statement. Although windspeeds may be typically lower during May-July, it does not preclude the possibility of wind speeds that have the potential to generate turbine noise that could be detrimental to nightjar. It is not known whether turbine noise has any impact on nightjar, however if they do it is not known:
- i) whether the noise / presence of turbines will deter the birds from settling,
 - ii) whether the birds will settle but their ability to attract a mate will be compromised by the background noise of the turbines and;
 - iii) if a compromised ability to attract a mate is reflected in reduced breeding success.
- 3.6 If Powys Council are minded to approve the planning application then NRW requests that the conditions set out below are imposed on the planning consent.
- a) Requires a pre-construction baseline against which the developer can compare post-construction effects.
 - b) If any perceived impact of turbines on the birds is observed, that the relevant turbines are temporarily shut down at certain times during the nightjar breeding season.
- 3.7 The approach outlined here in relation to nightjar is the same as the approach that has been conditioned as part of the planning consent given for the Clocaenog Wind Farm North Wales.
- 3.8 The developer at the Clocaenog development site is currently undertaking research to try and work out how loud a churring nightjar is, compared to the noise of turbines, and compared to the background noise of different wind speeds. They are also collecting baseline data on bird numbers, distributions, and productivity. Depending on the outcome of their findings, they may then have to comply with a condition that certain turbines are switched off at dawn and dusk during the nightjar breeding season.
- 3.9 It may be that the turbines have no impact at all, but such a conclusion will only be reached after research has been conducted, rather than basing it on unproven assumptions about impacts of wind speed.

The wording of any condition relating to the above would need to be carefully reviewed. The Clocaenog ES states that nightjar monitoring, referred to in the above, is taking place over a five year period. It may well be the case that construction is taking place when the results of the Clocaenog survey are more well-known and therefore, the wording of any condition should recognise this.

As it stands, if this condition is to be in line with what is happening at Clocaenog (although the wording currently is not completely clear);

Point 3.6 a) above is requesting a pre-construction baseline looking at numbers, distributions and productivity. This would involve a series of survey with walkover surveys (minimum 2 visits/year) completed to provide numbers and distribution whilst more intensive nest finding works (including tagging, nest finding and chick counting) will be required to provide productivity data. These works

could be undertaken concurrently but the productivity data surveys would require a greater time element due to the level of effort required. The expectation then is that this same survey work would then be conducted post-construction to see how nightjar numbers, distribution and productivity are impacted by the turbines. Our concern here is that given that the number of nightjar found on site at Carno is very low, we will not be able to 'significantly' show any impact (positive or negative) as the numbers are so small. In addition, as Carno plans to clearfell (whereas Clocaenog is key holing), this in itself might have implications for nightjar numbers and productivity etc. as the availability of suitable habitat increases - as such, nightjar population may increase in the short term and decline in the long term as habitat management practices modify the habitats present. Therefore, any differences in results from these surveys pre- and post- construction will be very difficult to distinguish from habitat changes on site and in our view, will not conclusively reveal whether any changes to nightjar are resulting from turbine noise or changes in habitat.

For point 3.6 b) above, the term 'perceived' impact is considered too vague and we consider that a condition that required actual shut down of the turbines would be too onerous. As far as we are aware Clocaenog have not proposed mitigation whereby turbines are 'shut down' at dawn and dusk, but rather, the ES proposes that the turbines are set to a higher cut-in-speed at wind speeds where nightjar churring does not take place (the intention for Clocaenog seems to be they will identify this wind speed through survey/ research – an approach that could also be adopted here with data collected on churring and wind speed during pre-construction and any pre-felling surveys), which is less prohibitive than having to shut down the turbines completely during these times.

In addition, in the long term as stated above, it may also be difficult to untangle the interaction between long term habitat management prescriptions for planned bog restoration and turbine noise from changes in nightjar numbers as it is likely that this conversion from clearfell to bog habitat will also reduce the habitat suitability for nesting nightjar. This could lead to the requirement to implement mitigation in the long term where it is not required.

Given the above, we request the opportunity to review and comment on a draft condition that relates to nightjars and that NRW/Powys County Council take on board our comments above when drafting the condition.

4. Peat

- 4.1 NRW previously raised concerns regarding the potential impact of the proposal on peatlands in its previous response to Powys County Council dated 10th August 2013. Since this date we have continued to liaise with the applicant and provided comments following review of the draft Carbon Calculator in July 2015.
- 4.2 The proposal site is located on the Trannon plateau and includes an area of forestry which has been planted on deep peat together with extant areas of blanket bog habitats.
- 4.3 In our scoping advice we emphasised the need to ensure that the proposal was designed to minimise impacts on peatlands, including hydrological impacts. NRW considers peatlands to be a key issue because of the high conservation importance of blanket bog habitats and the need to ensure that disruption of peat soils are minimised thereby ensuring the carbon benefits of the scheme are maximised.
- 4.4 NRW welcomes the additional information which has been submitted by the applicant as part of the SEI. This includes additional peat depth data, a peat management plan, forestry management plan and a revised habitat management plan and carbon calculator.
- 4.5 The planning application boundary has been amended for the SEI such that it now

encompasses a 100m radius from each turbine, although this is not shown on the amended infrastructure layout (figure 4.13). Further clarification has been sought from the applicant who has confirmed that no infrastructure will be located outside the requested 50m micro-siting radius and the 100m boundary is being sought to allow blade oversail within the 100m boundary. Parts of the proposed infrastructure remain on deep peat (e.g. Turbine 6 which is located on 3m of peat) and in proximity to sensitive blanket bog habitats. This will result both in direct excavation of peat but also impacts from hydrological changes. We consider that the ES has underplayed the impact on peat because:

- (a) The blanket bog on the site is considered in the SEI to be of county value when NRW considers them to be of national value.

Whilst the areas of blanket bog in the wider region maybe of greater importance, the 6.07 ha of blanket bog identified, coupled with the larger areas of wet modified bog and dry modified bog habitat (total area 33.93ha) represents <0.05% of the Welsh resource (Estimated at 70,000 ha in UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) 2008¹). As such, this was considered unlikely to meet the criteria for national importance alone based on the criteria listed in Table 9.14 of the SEI i.e. it does not consist of a large area of Annex 1 priority habitat due to its degraded status.

- (b) The assessment of blanket bog habitat loss estimates a total loss of an area equivalent to approximately 600m². This appears not to take account of the worst case scenario of micro-siting infrastructure. For example if turbine 15 was moved so that its footprint was completely on M25 bog then its footprint would be greater than 600m².

It is acknowledged that the habitat loss calculations presented in Section 9 (Tables 9.23 and 9.24) of the SEI do not take the micro-siting into account. However, the habitat loss calculations, in terms of blanket bog are only one way in which impacts on blanket bog are assessed. The carbon calculator calculations do take into account the additional areas for micro-siting and indeed, the calculations (and hence the results presented) assume that the whole area of the proposed development footprint, including micro-siting areas, is pristine blanket bog. As such, a worst case scenario has been presented and assessed in this regard. Furthermore, in the case of Turbine 15 provided as an example above, we wish to make clear that the proposed turbine could not be micro-sited any closer to the mire habitat than the proposed location as the oversail of the turbine blades would not be able to cross the site boundary (i.e. micro-siting would be prohibited any further north) and therefore, only the southern half of that micro-siting area can be used. This provides an example of how the assessments can only provide information of likely significant impacts on the proposed layout as it stands at the time of the application and it is expected that further site investigation post consent would seek to reduce impacts further. It is recommended and encouraged that micro-siting works would consider constraints from many disciplines i.e. ecology, hydrology/peat and engineering. The applicant fully anticipates a condition for a micro-siting protocol and indeed such a draft condition has been provided in Annex 2, which allows the requirement for further detailed peat assessment to inform micro-siting. The applicant is accepting of this condition in principle however the applicant would appreciate the opportunity to review and comment on a draft condition if there are any further amendments to the wording of that draft condition (e.g. by PCC).

- (c) The estimate of loss of habitat takes no account of the loss potentially occurring through hydrological change. The ES acknowledges that such an impact will occur but does not quantify them and appears to misunderstand the potential for hydrological changes e.g. by stating that hydrological impacts cannot occur on ombrotrophic bog.

The SEI does not present an account of habitat loss through hydrological change as the level of

¹ http://jncc.defra.gov.uk/Docs/UKBAP_BAPHabitats-03-BlanketBog.doc
www.naturalresourceswales.gov.uk
www.cyfoethnaturiolcymru.gov.uk

change would be difficult to quantify with any great confidence and allocate a meaningful number to. As such, and in line with CIEEM EclA guidance, this has been assessed qualitatively using professional judgement. The potential loss of peat habitat through hydrological changes has been addressed within the ES/SEI however.

Section 8 presents a thorough investigation into the hydrological connectivity between areas of proposed infrastructure and deep peat within each surface catchment area. In Section 8.12, this assessment identifies those proposed infrastructure that have potential hydrological connectivity to areas of deep peat and outlines a set of mitigation measures to ensure that any potential effects from felling, construction, operation or decommissioning do not lead to surface or groundwater flow patterns which might lead to degradation of peatlands.

In addition, the carbon calculator and the calculations undertaken for the peat management plan have included additional buffer areas (which includes the 50 m micro-siting area for turbines for example) intended to give an indication of the potential wider impacts to peat in the disturbance zones where excavation is undertaken. More specifically, the carbon calculator calculations specifically include a parameter that denotes the extent of drainage, and thus hydrological impact, beyond the area of peat excavation. This is fully quantified and Section 9 of the Carbon Balance Assessment presented in Appendix 2A.3 presents the results of potential drainage and hydrological mechanisms on peat.

- 4.6 Where infrastructure is located in proximity of deep peat and sensitive habitats the red line/micro-siting boundary has not been restricted to avoid the micro-siting of infrastructure closer to these areas. The SEI also acknowledges that micro-siting will have to take account of constraints other than peat when determining the final location of infrastructure which means that micro-siting cannot be guaranteed to minimise impacts on peatlands. This being the case the worst case scenario should have been assessed.

As previously mentioned, the applicant fully anticipates a condition for a micro-siting protocol and indeed such a draft condition has been provided in Annex 2, which allows the requirement for further detailed peat assessment to inform micro-siting and that the peat management plan would be updated throughout the pre-construction and construction periods through detailed site investigation works. The applicant is accepting of this draft condition relating to the micro-siting protocol (NRW Draft Condition 3 – Annex 2) and the terms of the draft condition that relates to the peat management plan (NRW Draft Condition 4 – Annex 2) in principle however the applicant would appreciate the opportunity to review and comment on a draft condition if there are any further amendments to the wording of that draft condition (e.g. by PCC). It should also be noted that the red line boundary needs to accommodate all areas of oversail which may have little or no physical effect to surface vegetation or hydrology.

- 4.7 A carbon calculator assessment has been provided by the applicant in line with the Scottish Executive methodology. This demonstrates that the expected total loss of CO₂ from the impact on peat is 5,401 tCO₂ and the maximum or worse-case scenario is 40,435 tCO₂.
- 4.8 The secured carbon gains from peat restoration as part of the Habitat Management Plan (HMP) is estimated to be 5,450 tCO₂ which are the gains resulting from the primary peat restoration area of 75.52ha.
- 4.9 However the carbon calculator also assumes that there will be 22,198 tCO₂ gained from the restoration of peatlands on the remaining 263.75ha of the site. To enable these carbon gains to be realised it is assumed that the water table in this area will be raised from 35cm to 25cm below the ground. The HMP commits to ditch blocking in the 75ha primary peat area but does not secure the necessary actions in the wider 263ha site to ensure a 10cm rise in the water table. NRW therefore cannot agree that these gains are likely to materialise as a result of the implementation of the HMP. Given the estimates of a 5,401-

40,435 tCO₂ loss of carbon, the HMP as presented in support of the planning application is unlikely to fully mitigate the loss of carbon as a result of locating the windfarm on a peatland site.

- 4.10 The 263ha of the site within the HMP, but not within the primary peat restoration area, is identified in the plan for tree felling and will then be left to undergo natural regeneration. Some brash will be placed in ditches but this is unlikely to block them sufficiently to lead to restoration of blanket bog. NRW is concerned that in these areas there will be conifer regeneration which will compromise the objective of restoring blanket bog. The HMP includes a commitment to undertake conifer clearance but imposes a financial cap on the amount of conifer clearance that can be undertaken. We advise that the applicant needs to provide further habitat restoration to fully mitigate their impacts on peatland and that this needs to be fully secured in the HMP as detailed below.

The Primary Peat Restoration Area within the western region of the site was chosen for extended measures of restoration such as damming etc. as this is the area (shown in Figure 9.38 of the SEI) that possess the largest areas of deep peat and modified degraded bog. Much fewer, more discrete areas of deep peat exist within the eastern region of the site, however one of the aims of the Habitat Management Plan is to restore this eastern region back to moorland habitats. As outlined in paragraph 8.11.10 of the SEI, afforested sites generally possess lower water tables due to the trees drawing from the water table as well as the added network of furrows and ditches that accompany conifer plantations. As such, the felling of the trees alone will prove beneficial in raising the water table depths in both areas through the removal of the active root structures that draw on the ground water and the tree canopy. This, along with the additional measures such as mulch and brash being placed into ditches was considered sufficient to result in an increase in water table depth. In addition, it is anticipated that subsequent proposed conifer clearance will be subject to a review process (see Section 12 of the HMP) which would be agreed by PCC/NRW.

It is important to bear in mind that the results provided by the carbon calculator should not be used prescriptively as the assumptions (e.g. topography is flat, the whole development footprint is located in areas of peatland vegetation) and average inputs (not inputs for individual pieces of infrastructure) placed into the carbon calculator tool provide only averages across the whole site. As such, the tool is useful for indicating the overall potential carbon efficiency of the development but the values should not be used prescriptively to form specific restoration requirement values.

Nevertheless, as NRW have expressed concern that the current restoration measures for the eastern region of the site are unlikely to be adequate, the applicant is amenable to propose further ditch blocking measures within this eastern region to ensure the increase in water table depth in principle. In addition, the applicant accepts the HMP draft condition provided by NRW (NRW Draft Condition 2 – Annex 2) subject to the amendments shown in track changes in this document. As the current HMP is fairly well developed at this stage, it is anticipated that the specific details of these additional measures along with those already proposed would be agreed with NRW and PCC as part of the condition discharge process.

- **Habitat Management Plan**

- 4.11 The SEI provides mitigation for peat in the form of commitments to undertake peatland restoration and management within a Habitat Management Plan (HMP) (included in appendix 8A.5).
- 4.12 NRW advises the LPA that if the mitigation provisions identified in the SEI are to be fully secured then further amendments are required to the HMP prior to commencement of development. We recommend that a suitably worded condition similar to that detailed in Annex 2 (condition number 2) shall be imposed on any planning consent.
- 4.13 Specifically we request that the condition ensures that the HMP is amended pre-commencement of development to include the following provisions;

- a) *Detail the measures necessary to secure the 10cm rise in the water table on the wider 263ha site, thus delivering 22,198tCo2 gain from the peat restoration proposals;*
- b) *After the micro-siting is finalised, but pre-construction, confirm the other areas for peat restoration and the detailed measures required on those areas to secure the balance of the actual tCo2 compensation required, up to the worst case of 40,435 tCo2 if necessary.*

Again, it is our opinion that the results provided by the carbon calculator should not be used prescriptively as the assumptions (e.g. topography is flat, the whole development footprint is located in areas of peatland vegetation) and average inputs (not inputs for individual pieces of infrastructure) placed into the carbon calculator tool provide only average and sometimes unrealistic worst case scenarios. As such, the tool is useful for indicating the overall potential carbon efficiency of the development but the values should not be used prescriptively to form specific restoration requirement values. As outlined in our previous paragraph, the applicant accepts the HMP draft condition provided by NRW (NRW Draft Condition 2 – Annex 2) subject to the amendments shown in track changes in this document. As the current HMP is fairly well developed at this stage and considerable consultation has already been undertaken between ourselves and NRW on the HMP, it is anticipated that the specific details of the additional measures outlined earlier along with those already proposed would be reviewed and agreed by NRW/PCC as part of the condition discharge process.

- Impacts of access route on peatland

- 4.14 The applicant has provided two route options for the underground electricity connection between the windfarm and the new substation to be site adjacent to the existing Carno substation. Both routes would necessitate sections of the cable route being dug through deep peat (>0.5m) and blanket bog habitats. NRW undertook a site visit on 24th November 2014 to map the habitats and peat along the two options as there was insufficient information to advise on the relative impacts of the two routes in the original ES.
- 4.15 NRW subsequently advised the applicant that the northern most route should be used in preference to the southern route as there would be less impact on peatlands. We note however that the southern most route remains as an option in the SEI.
- 4.16 We advise that Powys Council imposes a suitably worded condition on any planning consent to ensure the use of the northern route and that micrositing is used to minimise the damage to peatland habitats. Suitable conditions should also be attached to any permission to ensure the micrositing is informed by further collection of peat data and is overseen by a suitably qualified Ecological Clerk of Works (ECoW). Suitable draft conditions to this effect are provided in Annex 2.
- 4.17 In conclusion NRW consider that the Habitat Management Plan should be revised prior to the determination of the planning application to ensure that the impacts of the proposed development on peat are fully mitigated. As presented it is not considered that the carbon benefits of the scheme have been fully maximised.
- 4.18 Any permission for the development will need to include suitably worded conditions to ensure the submission of a final Habitat Management Plan, Peat Management Plan and CEMP prior to the commencement of the development following consultation of the plans with NRW. A suitably qualified ECoW should also be employed to ensure that all mitigation is adequately delivered.
- 4.19 Given the ecological sensitivities of the site there is also a need to ensure any site decommissioning is undertaken in a manner which minimises impacts on peatlands. Suitable conditions to this effect are provided in Annex 2.

As paragraph 4.19.2 of the SEI states that the northern grid connection route has been deemed as the most appropriate to progress, having less impacts on peat and existing habitats – this is the route that has undergone further ecological, landscape and visual and heritage assessment. As such, the applicant would be amenable to a condition that ensures use of this route and the inclusion of this route within any conditioned and agreed micro-siting protocol.

- **Other hydrology**

- 4.20 We note the applicant's intention to install bottomless arch box culverts. The Local Planning Authority should ensure this commitment is secured via a suitable worded planning condition imposed on any planning consent given for the development.

5. Ecology

- 5.1 We have reviewed the information provided in the SEI relating to protected species including the Ecology Reports and Surveys contained in Volume 3A Appendix 9. We also acknowledge the Protected Species Protection Plan provided in Appendix 9A.28. Compliance with the final approved Protected Species Protection Plan should be ensured under the imposition of a suitably worded planning condition on any planning consent given for the development.

The applicant is amenable to a planning condition for the Protected Species Protection Plan but would appreciate the opportunity to review and comment on any draft condition in this regard.

- **Bats**

- 5.2 The updated 2014 Bat Surveys prepared by Ecology Matters is acknowledged. The surveys confirm the presence of Common Pipistrelle, Soprano Pipistrelle, Noctule, Myotis sp. and Brown Long-eared. The baseline survey work did not identify any roosts.
- 5.3 In summary the surveys confirm that both pipistrelle species were considered to utilize the site for foraging and dispersal purposes. Section 4 of the Species Protection Plan recommends that suitable mitigation is required to ensure the maintenance of their favourable conservation status..
- 5.4 It is considered that the proposal has the potential to cause an adverse impact on local Common Pipistrelle and Soprano Pipistrelle populations owing to loss or changes to foraging areas including loss of tree cover, use of artificial lighting and night time working during construction phase.
- 5.5 Given low level of activity, collision risk and barotrauma, the proposal is not likely to affect the maintenance of the favourable conservation status of local populations of Myotis sp.
- 5.6 The survey results demonstrate that noctule species was predominantly utilizing open habitats. However, the more recent surveys indicated that low numbers were recorded of this high risk species.
- 5.7 As noted in 9.21.00 an adverse impact on maintenance of the favourable conservation status of local populations of noctule species cannot be precluded. As recommended therefore in the section 4 of the Species Protection Plan, suitable mitigation is required to ensure the maintenance of their favourable conservation status.
- 5.8 Results suggested low numbers of Brown long eared bats present within the survey area. Given low level of activity, collision risk and barotrauma, the proposal is not likely to affect the maintenance of the favourable conservation status of local populations of Brown long eared bats.

- Bat Mitigation

- 5.9 The submission in respect of bats identifies that potentially significant impacts on bat species could occur as a result of the operation of turbines 8 and 12.
- 5.10 It is identified that a 50m distance between the blade tip of turbine 8 and any feature that could be used by bats is not achievable and that also this distance may not be achievable through the siting of turbine 12. In light of this a number of mitigation proposals are offered including;
- (i) Micrositing Turbine 8 to increase spatial separation from bat features
 - (ii) Revised management of trees closest to Turbine 8;
 - (iii) Curtailment of turbine 8 and 12 should a distance of at least 50m between the blade tip and any features that could be used by bats not be possible following micro siting (Initial prescription: cut in speed to be greater than 5.4 m/s when temperature is 10°C);
 - (iv) Management of trees near Turbine 12;
 - (v) Targeted habitat management prescriptions in the 'Habitat Management Plan (HMP); and
 - (vi) Post project surveillance (including surveillance associated with ICK).
- 5.11 We welcome the recommendation to undertake one year of bat surveys prior to construction of development and post felling of trees that require felling to accommodate the development.
- 5.12 However the level of post-construction surveys that will be undertaken need to be agreed with NRW.
- 5.13 NRW are currently in the process of preparing guidance that will replace Natural England's TIN051 'Bats and onshore wind turbines'. Survey methodology in relation to pre-construction, post felling and post construction of development should follow the guidance that will be published by NRW in 2016 and in general should include both activity monitoring and carcass searches.
- 5.14 It is expected that the guidance will recommend that carcass searches are undertaken at all turbines.
- 5.15 The draft curtailment plan is welcomed but we do request that some revisions are made to the final approved plan which can form subject of discussions with NRW following any planning consent given for the development. We therefore advise that any planning consent includes a suitably worded planning condition requiring the final curtailment plan to be approved by the LPA in consultation with NRW prior to the operation of the development.
- 5.16 The current plan proposes for a cut in speed set at no greater than 5.4m/s when the temperature is 10 degrees or more from between sunset and sunrise June, July and August at Turbine 8. However we would recommend increasing the period or curtailment to include September.
- 5.17 The rationale for this request is because of the uncertainty of accurately predicting use based on pre-construction surveys and also that year on year variation in bat usage means it is difficult to conclude that September would be a low risk period. It may be possible to reduce the length of the overnight curtailment if this is considered necessary, but we would need to look in more detail at the pattern of bat activity at this site before agreeing to this.
- 5.18 The curtailment plan can be reviewed in the light of post-construction monitoring and

updated accordingly following approval by the LPA under the requirements of a suitable worded condition.

The applicant is amenable to a planning condition relating to bats (which would likely fall under the umbrella of the Protected Species Protection Plan) but would appreciate the opportunity to review and comment on any draft condition in this regard.

- **Otter**

- 5.19 The submission identifies evidence of otter associated with the Afon Trannon, largely outside of the construction footprint. However in light of the mobile structure of this species, the submission identifies that a suitable Reasonable Avoidance Measures Strategy (RAMS) as drafted in section 3.4 of the Protected Species Protection Plan is required to ensure the maintenance of the favourable conservation status of otters.
- 5.20 The scheme design includes a minimum distance of 50m between the proposed site infrastructure and watercourses. However felling is proposed to take place in the vicinity of watercourse.
- 5.21 In addition and as identified, where suitable otter habitat or evidence has been identified within 200m of the construction work location through baseline or updated walkover surveys, pre-construction checks should be undertaken using standard methods looking for spraints and other signs of otter presence. The progression of further survey/setting up of exclusion zones shall proceed as detailed in section 3.4 of the Protected Species Protection Plan.
- 5.22 It is also recommended that the Construction Environmental Management Plan considers issues associated with the prevention of incidental injury, capture or killing of otter during construction phase of the scheme.

- **Water Vole**

- 5.23 It is not considered that the proposal is likely to affect the conservation status of any extant local water vole populations during operational and construction phase of the scheme.
- 5.24 However, we recommend that the Construction Environmental Management Plan considers potential issues associated with the prevention of incidental injury, capture or killing of water vole during the construction phase of the scheme.

- **Badgers**

- 5.25 It is not considered that the proposal is likely to affect the conservation status of any extant local badger social groups or populations during operational and construction phase of the scheme.
- 5.26 However it is recommended that the final Protected Species Protection Plan includes suitable Reasonable Avoidance Measures Strategy (RAMS) in respect of ensuring the maintenance of the favourable conservation status of Badgers.

The applicant is amenable to a planning condition relating to the above protected species (which would likely fall under the umbrella of the Protected Species Protection Plan) and inclusion of their consideration in an agreed CEMP, but would appreciate the opportunity to review and comment on any draft condition in this regard.

- **Protected Species Protection Plan**

5.27 We advocate the inclusion of an Ecological Compliance Audit as a material component of the overall scheme. We suggest that this is secured by the imposition of a suitable worded planning condition attached to any planning consent given for the development. We generally concur with the Mitigation included in the Protected Species Protection Plan included in Appendix 9A.28 although a final detailed version should be approved under condition.

The applicant is amenable to a planning condition relating to the above, but would appreciate the opportunity to review and comment on any draft condition in this regard.

- **Biosecurity**

- 5.28 No information has been provided in respect of biosecurity and invasive non-native species.
- 5.29 We consider biosecurity to be a material consideration owing to the nature and location of the proposal and concerns in this case, invasive non-native species and diseases.
- 5.30 We therefore advise that any planning consent for the development includes the imposition of a suitably worded planning condition requiring the submission and implementation of a Biosecurity Risk Assessment to the satisfaction of the LPA.
- 5.31 Such an assessment should include the following;
- 1) Appropriate measures to control any INNS/Diseases on site; and
 - 2) Measures or actions that aim to prevent INNS/diseases being introduced into the site for the duration of construction and operational phase of scheme.
- 5.32 The conclusion of such an assessment should be included in the Construction Environmental Management Plan.

The applicant is amenable to a planning condition relating to the CEMP and will accept inclusion of a Biosecurity Plan as part of the CEMP. The applicant would appreciate the opportunity to review and comment on any draft condition in this regard.

- **Annex I Habitats**

- 5.33 We advise that Phase II surveys are undertaken and include an analysis of Habitats Directive Annex I habitats present.

We are unsure as to whether this should be included here. Phase II NVC surveys have already been undertaken for the proposed development and are presented within the SEI.

- **Local and Regional Impacts**

- 5.34 Please note that we have not considered possible effects on all species and habitats listed in section 42 of the Natural Environment and Rural Communities (NERC) Act 2006, or on the Local Biodiversity Action Plan or other local natural heritage interests. To comply with your authority's duty under section 40 of the NERC Act, to have regard to conserving biodiversity, your decision should take account of possible adverse effects on such interests.
- 5.35 We recommend that you seek further advice from your authority's internal ecological adviser and/or nature conservation organisations such as the local Wildlife Trust, RSPB,

etc. The Wales Biodiversity Partnership's web site has guidance for assessing proposals that have implications for section 42 habitats and species (www.biodiversitywales.org.uk).

Annex 2 – Suggested conditions

1. No development shall commence, including vegetation clearance and tree felling, until a suitably qualified Ecological Clerk of Works (ECoW) has been employed. The ECoW shall be appointed at least one month prior to the commencement of any tree felling, site/vegetation clearance works or development. The scope of the ECoW shall include, but not be limited to:
 - a) monitoring compliance with and reporting on the success or failure of the approved mitigation works and in the event of failures advising on remedial mitigation measures;
 - b) advising the developer on the implementation of the approved mitigation proposals and the protection of important nature conservation interests on the site;
 - c) directing and consulting on the micro-siting and placement of turbines, roads and other infrastructure;
 - d) monitoring and reporting on the compliance with the Construction Environmental Management Plan (CEMP), peat management plan and other associated environmental plans;
 - e) attending liaison meetings with and reporting compliance with conditions and plans and mitigation measures to PCC and other parties as necessary.

Reason: In the interest of ecology and peat.

2. No development shall commence on-site until a detailed Habitat Management Plan (HMP), setting out detailed nature conservation management objectives including the management of priority habitats and species, and a timetable for its implementation, has been submitted to and approved in writing by the Local Planning Authority, following consultation with NRW. The HMP shall include (but not be limited to) details of the habitat management measures contained set out in Appendix 8.A.4 (Volume 3A) of the August 2015 SEI and the following details:
 - a) proposals to minimise adverse effects on peat and ecology;
 - b) the maintenance of existing areas of peatland habitats;
 - ~~c) the maximisation of peat restoration across the site including a minimum area objective for blanket bog restoration and maintenance;~~ c) the maximisation of peat restoration across the site including a minimum area objective where blanket bog restoration and maintenance works will be completed;
 - d) measures to avoid habitat management affecting species using the site;
 - e) methods to be applied to restore the water table to allow restoration and maintenance of blanket bog habitat;
 - f) methods to be applied to restore habitats across the site including grazing and fencing, heather cutting;
 - g) a timetable for the implementation and completion of all HMP measures (including tree harvesting);
 - h) a scheme to secure the removal of re-seeded conifers and other invasive plants;
 - i) measures to implement the provisions of the HMP
 - j) measures to monitor that the HMP objectives are being met.

The development shall be carried out and operated in accordance with the approved HMP.

Reason: In the interests of nature conservation

3. Prior to commencement of development on the wind farm site (excluding tree felling, site and vegetation clearance) a micro-siting protocol shall be submitted to and approved in writing by the Local Planning Authority. The micro-siting protocol shall include:
- a) agreed criteria for micro-siting turbines, access tracks, borrow pits, crane pads and turning circles, contractor's compounds and all other infrastructure associated with the development, in relation to, but not limited to, the requirement to minimise impacts on peat, blanket bog habitat; bats; curlew; watercourses; footpaths and bridleways;
 - b) an agreed hierarchy of issues to be considered in micro-siting decisions; and,
 - c) the extent of any NRW involvement in the final micro-siting approval process and implementation of the approved scheme. Following forestry felling, a detailed peat depth assessment in all areas where infrastructure may have an impact on peat shall be undertaken to inform the micro-siting protocol. The protocol shall be implemented as approved.

Reason: To allow the developer flexibility during construction to make minor changes in the location of infrastructure to deal with difficulties such as poor ground conditions that become apparent during construction.

4. No development shall commence until a Peat Management Plan (PMP) incorporating the objectives and measures outlined in the PMP contained within the Carno 3 Wind Farm Supplementary Environmental Information 2015 has been submitted to, and approved by the local planning authority. The PMP shall include:
- a) measures to minimize impacts on peatland habitats during site clearance, tree harvesting and construction;
 - b) updated peat probing surveys and peat depth modelling;
 - c) the storage, handling and re-use of all excavated peat;
 - d) a revised peat budget based on a drain survey following tree felling and revised peat excavation volumes;
 - e) Measures for the blocking and/or infilling of drains.

The development shall be implemented in accordance with the approved plan.

Reason: In the interests of ecology and peat.

5. No development shall take place before a Forestry Management Plan (FMP) has been submitted to the local planning authority and has been approved in writing following consultation with NRW. The FMP shall generally accord with the objectives, methodology and scope of the Outline Habitat Management Plan that forms Appendix 8A.5 of the SEI 2015, and shall include details of the management of tree felling to ensure the objectives of the HMP are not undermined.

Forestry Management and tree felling shall be carried out in accordance with the approved Plan.

Reason: In the interests of ecology

6. Not less than 24 months before the expiry of ~~this permission~~ the operational period of this consent or earlier planned decommissioning of the wind farm, scheme details and methodologies of updated peat, habitat, bird and protected species surveys to inform a site decommissioning and restoration scheme shall be submitted to and agreed in writing by the Local Planning Authority.

Reason: To inform the decommissioning scheme.

7. Not less than 12 months before the expiry of the operational period of this consent or earlier planned decommissioning of the wind farm~~this permission~~, a scheme for the decommissioning and restoration of the site shall be submitted for the written approval of the Local Planning Authority. The scheme shall be informed by updated habitat and species surveys scheme and shall include, but not be limited to:

- a) details of the wind farm infrastructure to be removed;
- b) details of the management and timing of works;
- c) mitigation to avoid and minimise impacts on peat, habitats and species;
- c) works of restoration and aftercare.

The scheme implemented as approved and shall be completed within 12 months of the expiry date the permission.

Reason: to ensure development is removed in a sympathetic manner upon expiry of this permission.

8. No development including site clearance, vegetation removal or tree felling works shall commence until a Construction Environmental Management Plan (CEMP) has been submitted to and approved in writing by the Local Planning Authority. The CEMP shall include details of:

- a) any temporary construction compound including temporary structures/buildings, welfare facilities, fencing, parking and storage provision to be used in connection with the site clearance, tree felling and construction of the development;
- b) details of methods for culverts of all new or upgraded water crossings~~a working statement (including design and construction) to cover all channel and bank works including all water crossings;~~
- c) the proposed storage of materials (including waste materials) and disposal of surplus materials;
- d) the deposition, grading and finishing (in relation to local land form and habitat) of any soil and other natural materials not removed from the site during construction works;
- e) details of surface treatments and the construction of all hard surfaces and tracks;
- f) construction method statements for turbines, access roads, construction compounds and other permanent and temporary infrastructure;
- g) a water quality and pollution prevention plan, to include measures to avoid pollution due to run-off, pollution response plans, and water quality monitoring;
- h) details of production processes for concrete, including washing out procedures;
- i) emergency procedures;
- j) measured measures to control dust and mud,~~including wheel washing facilities and the sheeting of HGVs;~~
- k) temporary site illumination;
- l) methods to control construction noise;

- m) the opening, excavation and reinstatement of on-site borrow pits;
- n) details of phasing of the construction works;
- o) a post construction restoration plan, including removal of temporary structures, construction compounds, and construction materials;
- p) details of measures to prevent the spread of non-native invasive species;
- q) details of how access routes and tracks shall be constructed and managed to accommodate AILs; and,
- q) the roles and responsibilities of persons responsible for the management and implementation of the CEMP.

The CEMP shall be implemented as approved

Reason: To ensure a satisfactory level of environmental protection

Ms Jayne Foxley,
Development Management,
Powys County Council,
The Gwalia,
Ithon Road,
Llandrindod Wells,
Powys.
LD1 6AA

Ebost/Email:
angharad.crump@cyfoethnaturiolcymru.gov.uk
Ffôn/Phone: 03000 655 232

26/02/16

Dear Ms Foxley,

**RE: CARNO WIND FARM PHASE 3 SUPPLEMENTARY ENVIRONMENTAL INFORMATION
NRW RESPONSE TO NATURAL POWERS COMMENTS.**

Please find below NRWs reply to comments received by Natural Power (dated 20th of January 2016) regarding NRWs response (dated 11th December 2015) to Powys Council on the Supplementary Environmental Information (SEI) for the Carno Wind Farm Phase 3 development. Unless otherwise stated our previous comments of the SEI remain unchanged and should be taken into full account during the decision making process.

(1) Breeding Curlew

Our position regarding Breeding Curlew, as explained below, remains unchanged.

The RSPB and Glastir advice cited by the developer relates to farming activities which are ephemeral in nature but which, if undertaken at a critical time of the breeding season, could result in the destruction of active nests. In contrast, disturbance associated with windfarm construction will be longer term, and could displace birds before they have started to actively nest. Our position is based on advice from the British Trust of Ornithology, and published sources, which cite reappearance of curlew on their breeding grounds as early as mid-February. For information in appendix one to this letter we have attached a curlew template plan that has been agreed with other windfarm developers in the past.

NRW request that any planning permission for this scheme includes a suitable condition to secure the protection of curlew during the breeding season.

(2) Breeding Nightjar

The key message we were wishing to convey was that although wind speeds may be typically lower during May-July, it does not preclude the possibility of wind speeds that have the potential to generate turbine noise that could be detrimental to breeding nightjar. Therefore, appropriate regard must be given to assessing the potential impacts on nightjar and the implementation of appropriate mitigation.

NRW request that if planning permission is granted for this scheme then it should include a suitable condition to secure the protection of Nightjar during the breeding season. We suggest that the following condition could be used for such purposes.

Draft Nightjar Condition

Prior to commencement of development a nightjar monitoring plan shall be submitted to and approved by the local planning authority. The nightjar monitoring plan shall be subject to prior consultation with Natural Resources Wales and shall be implemented as approved unless otherwise agreed in writing by the planning authority.

NRW note the applicant's observation pertaining to our comments in 3.8 where NRW said "Depending on the outcome of their findings, they may then have to comply with a condition that certain turbines are switched off at dawn and dusk during the nightjar breeding season". This statement need to be amended and should read "Depending on the outcome of their findings, they may then have to comply with a condition that certain turbines are set to a higher cut-in-speed at wind speeds where nightjar churring does not take place"

(3) Peat

NRW still consider this area to be of national value. We note that the applicant is accepting of the draft micro siting condition as set out in Annex 2 of NRW's letter dated 11/12/2015 and agrees to constantly update the peat management plan to mitigate impact on peat. The Developer also agrees to secure the protection of deep peat and sensitive habitats through micro siting. The applicant is amenable to do more work to restore peat, further commitment is required in the HMP to secure this. Please see HMP draft condition below.

(4) Habitat Management Plan

The applicant has confirmed that further mitigation measures will be secured in the final agreed HMP within the eastern regions to maximise restoration and will include further ditch blocking to ensure an increase in water table depth in this area. NRW is satisfied that the full details of the mitigation can be secured under approval of the final HMP under a pre-commencement condition.

To this effect, NRW requests that any planning permission for the scheme includes the imposition of a condition to secure the appropriate mitigation measures (amended HMP draft condition in Appendix 2):

"No development shall commence on-site until a detailed Habitat Management Plan (HMP), setting out detailed nature conservation management objectives including the management of priority habitats and species, and a timetable for its implementation, has been submitted to and approved in writing by the Local Planning Authority, following consultation with NRW. The HMP shall include (but not be limited to) details of the habitat management measures contained set out in Appendix 8.A.4 (Volume 3A) of the August 2015 SEI and the following details:

- a) *proposals to minimise adverse effects on peat and ecology;*
- b) *the maintenance of existing areas of peatland habitats;*
- c) *the maximisation of peat restoration across the site including a minimum area objective where blanket bog restoration and maintenance works will be completed;*
- d) *measures to avoid habitat management affecting species using the site;*
- e) *methods to be applied to restore the water table to allow restoration and maintenance of blanket bog habitat;*
- f) *methods to be applied to restore habitats across the site including grazing and fencing, heather cutting;*
- g) *a timetable for the implementation and completion of all HMP measures (including tree*

- harvesting);*
- h) a scheme to secure the removal of re-seeded conifers and other invasive plants;*
 - i) measures to implement the provisions of the HMP*
 - j) measures to monitor that the HMP objectives are being met*
 - k) a review process after the micro-siting is finalised, but pre-operation, using the carbon calculator and peat data collected during micrositing, to confirm to the satisfaction of the Local Planning Authority, following consultation with NRW, that practical measures in terms of permitted micrositing and habitat restoration within the site have been made that ensure that the carbon gains achieved from restoration measures proposed within the HMP still balance or outweigh the soil carbon losses due to construction of the wind farm.”*

(5) Impacts of grid access route on peatland

The applicant has confirmed that the northern grid connection route has been deemed as the most appropriate to progress. We advise that Powys Council imposes a suitably worded condition on any planning consent to ensure the use of the northern route and that micrositing is used to minimise the damage to peatland habitats.

(6) Ecology

The applicant agrees with our comments and has noted that they are amenable to a planning condition for a Protected Species Protection Plan. Please refer to our previous letter dated 11 December 2015 regarding the requirements of such a condition.

(7) Bats

The applicant agrees with our comments and has noted that they are amenable to a planning condition relating to bats. Please refer to our previous letter dated 11 December 2015 regarding the requirements of such a condition.

(8) Otter, Water vole, Badgers

The applicant is amenable to a planning condition relating to the above protected species and inclusion of their consideration in an agreed CEMP. Please refer to our previous letter dated 11 December 2015 regarding the requirements of such a condition.

(9) Ecological Compliance Audit

The applicant is amenable to a planning condition relating to the Ecological Compliance Audit. Please refer to our previous letter dated 11 December 2015 regarding the requirements of such a condition.

(10) Biosecurity Plan

The applicant is amenable to a planning condition relating to the CEMP and will accept inclusion of a Biosecurity Plan as part of the CEMP. Please refer to our previous letter dated 11 December 2015 regarding the requirements of such a condition.

Please do not hesitate to contact me should you wish to discuss any of the matters raised in this letter.

Yours sincerely

Angharad Wyn Crump

**Angharad Wyn Crump MRTPI
Uwch Swyddog Cadwraeth / Senior Conservation Officer
Gwasanageth CYnghori Cynllunio Datblygu /
Development Planning Advisory Service**

Appendix 1 (Attached to e-mail)

TEMPLATE BREEDING BIRD PROTECTION PLAN

1 Introduction

- 1.1 In response to concerns stated by Natural Resources Wales (NRW) with regard to the impact of the construction (and decommissioning) element of a number of proposed terrestrial windfarms on breeding curlew, developers may be asked to produce a Breeding Bird Protection Plan (BBPP).
- 1.2 Curlew is not a species protected under schedule 1 of the Wildlife and Countryside Act 1981. However, their numbers have been for many years in decline in Wales, and there is now published evidence of the disturbance impacts of windfarm construction activities (Pearce-Higgins et al 2009, 2012). The approach set out here is designed to protect breeding curlew from construction disturbance, with proportion provision for breeding birds, while also trying to avoid unnecessary disruption to any windfarm construction programme.
- 1.3 This draft BBPP comprises a baseline plan set out in paragraph 2 together with a number of exceptions to the baseline plan set out in paragraphs 3 and 4.

2 Baseline plan

- 2.1 The BBPP will be informed by ornithological data from surveys carried out during a minimum of two years pre-construction, as per SNH guidance (2014).
- 2.2 Protection under this BBPP will be applied (subject to the exceptions in sections 3 and 4 below) to any territory identified as being occupied in surveys for the curlew breeding seasons in the two years preceding commencement of construction (or decommissioning) activities. For any such territory, the protected area will be a circle of 800 m radius around the territory centre. The territory centre will be estimated from data available from the pre-construction surveys. To take account of curlew moving their territory centre from year-to-year, for territories that are occupied in more than one year, the territory centre will be identified by an averaging of data from each year of survey. Identification of additional new territories will follow the consideration for delimiting separate pairs between visits outlined by Brown & Shepherd (1993: Bird Study 40, 189-195): i.e. record(s) from any survey will be considered to represent a new territory if they are over 1 km from records in any previous year.
- 2.3 For any area protected under this BBPP, subject to the exceptions set out in paragraphs 3 and 4 below, no decommissioning or construction activities shall take place in any year during the curlew breeding season. For this purpose, the curlew breeding season is from 15 February to 31 July.

3 Exceptions to the baseline plan: ornithological reasons

- 3.1 If in any year monitoring reveals that a territory for which a protected area has been designated under the baseline plan is not occupied by breeding birds before 30 April in that year, then the area shall no longer be protected in that or subsequent years.

- 3.2 Similarly, if monitoring reveals that the young in a particular territory have fledged, then from that date the protection for that territory shall no longer apply (for that year only).
- 3.3 If monitoring reveals that the breeding attempt has failed in a particular territory, then from that date the protection for that territory shall no longer apply (for that year only). Breeding failure is identified if there is no evidence of breeding (alarm calling, clutch loss, adults present) over a three-week period, with weekly monitoring (see supplementary notes below). Breeding will not be considered to have failed until after 30 April in any given year.

4 Exceptions to the baseline plan: construction requirements

- 4.1 As an exception from the general restriction on construction and decommissioning activities, certain activities may be carried out:
- 4.1.1 The movement of construction traffic where necessary to reach a location beyond a protected area where work can be carried on or to serve an activity permitted within a protected area;
 - 4.1.2 Movement of personnel necessary for these permitted activities or that is similar in nature and scale to that associated with the existing agricultural, pastoral and recreational uses of the site.
 - 4.1.3 Other activities that may be deemed essential to maintain the viability of the development, and if site-specific knowledge determines that these activities are likely to be tolerated by breeding curlew.

5 Supplementary and explanatory notes

- 5.1 During the period of construction, monitoring will be carried out within the protected areas at weekly intervals from 15 February to 31 July or until there are no active breeding attempts in those protected areas (whichever is earlier).
- 5.2 The prescriptions described above are based on several strongly precautionary bases. These include acceptance that three-visit surveys may not record every breeding territory. It is further assumed that for a territory to be considered unoccupied, it must be classed as such in at least two survey years before construction. It is also precautionary to require evidence only from a single year for any new breeding territories. Commencing protection for the curlew breeding season on 15 February is also precautionary. It is several weeks before egg-laying would occur, but takes account of when birds first arrive back on their breeding grounds. Because of the parlous state of breeding curlew in Wales, it is important that potential breeding pairs are given every opportunity to select and establish territories.
- 5.3 The following flowchart sets out the decision-making processes involved in the BBPP for any existing territory or for any new territory identified immediately prior to construction.

