

**FLINTSHIRE COUNTY COUNCIL**

**REPORT TO:** **PLANNING AND DEVELOPMENT CONTROL COMMITTEE**

**DATE:** **12<sup>TH</sup> OCTOBER 2016**

**REPORT BY:** **CHIEF OFFICER (PLANNING & ENVIRONMENT)**

**SUBJECT:** **FULL APPLICATION - ERECTION OF WIND TURBINE UP TO 77 M VERTICAL TIP HEIGHT WITH ASSOCIATED CRANE PAD, SUBSTATION BUILDING, FORMATION OF NEW TRACK AND NEW ENTRANCE JUNCTION OFF UNCLASSIFIED ROAD AND PROVISION OF TEMPORARY CONSTRUCTION COMPOUND AT MOUNT FARM, FFRITH.**

**APPLICATION NUMBER:** **051143**

**APPLICANT:** **NANT Y FFRITH WIND ENERGY LIMITED**

**SITE:** **LAND AT MOUNT FARM, FFRITH**

**APPLICATION VALID DATE:** **19.08.13**

**LOCAL MEMBERS:** **COUNCILLOR HILARY ISHERWOOD**

**TOWN/COMMUNITY COUNCIL:** **LLANFYNYDD**

**REASON FOR COMMITTEE:** **HEIGHT OF TURBINE IS OUTSIDE THE SCHEME OF DELEGATION**

**SITE VISIT:** **NO**

**1.00 SUMMARY**

- 1.01 This is a full planning application for the erection of a 77 metre single 500kw wind turbine on land at Mount Farm, Ffrith. Welsh Government has clear priorities to reduce carbon emissions with one of the ways of delivering this being through the continued development of renewable

energy generating projects. The clear message of both PPW and the Flintshire Unitary Development Plan is that renewable energy proposals should be permitted unless there are unacceptable impacts. In this case the siting and operation of the turbine would compromise flight safety and safe aircraft operations to and from Hawarden aerodrome. It is therefore considered that it is unacceptable on these grounds.

## **2.00 RECOMMENDATION: TO REFUSE PLANNING PERMISSION FOR THE FOLLOWING REASONS**

2.01 The siting and operation of the turbine would compromise flight safety and safe aircraft operations to and from Hawarden aerodrome contrary to policy AC12 of the Adopted Flintshire Unitary Development plan.

## **3.00 CONSULTATIONS**

### 3.01 Local Member

#### Councillor Hilary Isherwood

Requests the application is referred to planning committee because of the number of objections and the impacts in relation to the environment and the site context. A site visit is no longer required as the application is being refused on aerodrome safeguarding grounds.

#### Llanfynydd Community Council

Object on the grounds of;

- Transportation of the turbine on the A5101 along Offa's Dyke and the impact of the weight of the material. Road is showing signs of subsidence
- Noise pollution
- Impact on red kites in the area
- Impact on the appearance of the landscape – on the edge of AONB, impact on surrounding views
- Set a precedent

#### Adjoining Community Council's

#### Treuddyn Community Council

Make the following observations;

- Impact on the appearance of the landscape, on the edge of AONB, not assessed from Treuddyn within viewpoints
- Noise pollution
- Would set a precedent should impose condition to say no more within a 1 mile radius
- The impact of transporting a turbine along Offa's Dyke

- Communities should benefit from the payback annually and not a one off payment
- Blight on the community

#### Nercwys Community Council

No objection

#### Highways Development Control

No objection subject to conditions covering;

- Adequate facilities shall be provided and retained within the site for the loading, unloading, parking and turning of vehicles
- The developer shall be liable for the cost of making good any incidental damage to the highway network including street furniture, structures, highway verge and carriageway surfaces
- The developer shall take due care and attention to avoid the deposit of mud and debris on the highway from construction vehicles using the access
- After completion of the wind turbine construction works, the temporary highway width improvements required to facilitate the delivery of the abnormal loads to the site shall be reinstated back to the grassed verge areas

#### Public Protection

The noise level from the turbine is predicted to reduce to 35dB (A) (which equates to 33dB LA90) approximately 120m from the tower base and as such, it is recommended that the simplified ETSU-R-97 condition would be appropriate in this instance. Therefore it is recommended the following conditions be attached to any approval you may grant:-

1. The wind turbines should be installed by a suitably qualified persons, in accordance with the manufacturer's instructions and site survey.
2. The wind turbine shall be serviced in accordance with the manufacturer's recommendations.
3. The cumulative noise from the wind turbine, measured 3.5m from the facade of any occupied neighbouring property not in the ownership of the applicant, shall not exceed 35 dB LA90, 10 minutes up to wind speeds of 10m/s at 10m in height. Where the most noise sensitive part of any adjacent premises is above ground level, the monitoring location shall be 1m from the facade and a facade correction of -3dB(A) applied.
4. The Wind Turbine shall not be tonal in character.

5. Should the Local Authority receive a justifiable complaint of noise nuisance regarding the wind Turbine, the applicant shall undertake noise tests at his own expense to demonstrate compliance with condition 3 and 4 above. The methodology used to determine compliance shall be agreed with the Pollution Control Section of the Local Authority.

Welsh Water/Dwr Cymru

No comments to make.

CADW

The proposed development is located in the vicinity of the following scheduled ancient monuments known as;

- DE056: Maes Maelor Round Barrow
- DE109: Offa's Dyke: Brymbo Hill Section
- DE110: Offa's Dyke: Section S from Cae Llewellyn
- DE113: Offa's Dyke: Vron Farm Section
- DE169: Cas-Gan-Ditw Round Barrow
- DE196: Esclusham Mountain Cairn, Minera
- DE222: Offa's Dyke: Mountain View Section
- FL021: Offa's Dyke: Section extending 447m from Coerd Talon Banks
- FL022: Offa's Dyke: Section extending 117m NW of Church
- FL194: Nercwys Mountain Cairn
- FL205: Pentre round barrow
- FL206: Pen-y-stryt round barrow
- FL207: Carreg – y – Llech standing stone
- FL208: Bryntirion round barrow

The magnitude of the impact on the above listed monuments can be considered to range from negligible to slight and the development will not have a significant impact on the settings of the listed monuments.

In terms of the transportation of the elements of the wind turbine of the site whilst the transport route for components will be along existing public roads occupying the line of Offa's Dyke, abnormal loads are likely to be few in number and any surviving underlying archaeology would be sealed under the present road surface.

Natural Resources Wales

Natural Resources Wales does not object to the proposal. Although it will generate a major to moderate adverse visual effect within a 6km radius, it is not likely to change the landscape character of the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) as prescribed in Planning Policy Wales: Technical Advice Note 8 – Planning for Renewable Energy (Annex D:8.4). The proposal

is unlikely to have a significant impact upon protected sites or protected species in the area. We have no flood risk concerns with the development proposals.

#### Airbus

Object on the grounds of the turbine would compromise flight safety and safe aircraft operations to and from Hawarden aerodrome.

#### NATS (National Air Traffic Control Services) Safeguarding

The proposed development has been examined by our technical and operational safeguarding team and an assessment was undertaken. Although the proposed development is likely to impact upon our electronic infrastructure no objection is raised.

#### Civil Aviation Authority

The airport is deemed to be the expert and competent authority in safeguarding their aerodrome. Based upon the information provided by Hawarden aerodrome operator to the aerodrome Inspector the CAA has no reason to disagree with their objection to the proposed wind turbine. However the CAA do state that the wind turbine should not adversely impact upon the airport and would not affect its continuing certification under the relevant regulations.

#### Liverpool John Lennon Airport

No response received.

#### SP Powersystems

There is apparatus in the area in the proximity of the development which need to be considered.

#### Joint AONB Advisory Committee

Object on the grounds of;

- the impact on the higher ground within the AONB to the west and south
- intrusive and discordant effect which will undermine the sense of tranquillity and setting of the national protected landscape of the Clwydian Range and Dee Valley AONB
- a large and moving structure would be an alien feature and would have a harmful effect on the special quality of the AONB
- impact on views of the AONB from Waun y Llyn Country park, Bwlchgwyn and the footpath network at Nant y Ffrith
- impacts on AONB are not adequately covered by the Environmental Statement

#### Wrexham Borough Council

The turbine is 2km to the north of Bwlchgwyn within the County of Wrexham. 4 of the viewpoints in the LVIA are within Wrexham; namely Viewpoint 5 Bwlchgwyn, Viewpoint 11 Esclusham Mountain, Viewpoint 12 Windy Hill and Viewpoint 13 Gresford. Object on the grounds of;

- In terms of Viewpoint 5 Bwlchgwyn, it is considered that the report greatly under represents the nature of visual change and the number of people which would be affected by the proposal.
- The proposed turbine would feature within views of the AONB.
- The proposed abnormal indivisible loads (AIL) have the potential to cause significant disruption on the highway.

#### Clwyd Powys Archaeological Trust

No objections. There are no direct impacts arising from the construction of a turbine in this location. Indirect impacts are confined to a negligible degree of harm to the significance of the non-designated prehistoric cairns on Pen Llan Y Gwr, which lie 1.17km to the southeast.

### **4.00 PUBLICITY**

#### 4.01 Press Notice and Site Notice, Neighbour Notification

25 objections have been received on the grounds of;

- Noise pollution, sleep disturbance
- Traffic impacts during construction of HGV movements on walkers and horse riders due to nature of roads to the site
- Impact on Offa's Dyke from construction traffic
- Construction noise and dust
- Impact on landscape and AONB
- Impact on air traffic
- Shadow flicker
- Impact on local self-catering and bed and breakfast businesses
- Impact on wildlife – lapwing, red kites
- Light pollution
- It would set a precedent for future developments of this nature

193 signature online petition on the grounds of;

- Noise pollution
- Over dominance due to height and flickering affect
- Impact on the landscape
- Setting a precedent for more turbines

Mark Tami MP – raised constituents concerns about the visual impact and noise associated with the development and construction traffic.

## Campaign of the Protection of Rural Wales

### Object;

- Impact on the landscape and the AONB from the turbine and access track and substation contrary to policies STR7, GEN1, GEN3 and L1 of UDP
- It will be a visible and prominent feature seen in an extensive area contrary to policies L2, D1 and D2
- Not in TAN 8 Strategic Search area
- It is not part of a community scheme therefore is a commercial enterprise
- No details on how it would be connected to the grid
- The impacts of the turbine are far more than the benefits of the amount of electricity it would generate
- Traffic route to site

### 55 letters of support on the grounds of;

- Investment in the sector is needed
- It would be good for the local economy
- Wind turbines have minimal environmental impacts compared to other ways of generating energy
- Community benefits
- They are a good employer
- It is a clean and safe way to generate electricity

## **5.00 SITE HISTORY**

5.01 None

## **6.00 PLANNING POLICIES**

6.01 Flintshire Unitary Development Plan  
Policy STR1 – New Development  
Policy STR2 – Transport and Communications  
Policy STR3 – Employment  
Policy STR7 – Natural Environment  
Policy STR8 – Built Environment  
Policy STR10 – Resources  
Policy GEN1 – General Requirements for Development  
Policy GEN3 – Development in the open countryside  
Policy GEN5 – Environmental Assessment  
Policy D1 – Design Quality, Location & Layout  
Policy D2 – Design  
Policy D3 – Landscaping  
Policy D4 – Outdoor Lighting  
Policy L1 – Landscape Character

Policy L2 – Area of Outstanding Natural Beauty  
Policy WB1 – Species Protection  
Policy WB2 – Sites of International Importance  
Policy WB3 – Statutory Sites of National Importance  
Policy HE2 – Development Affecting Listed Buildings & Their Settings  
Policy HE6 – Scheduled Ancient Monuments & Other Nationally Important Archaeological Sites  
Policy AC12 – Airport Safeguarding Zone.  
Policy AC13 – Access & Traffic Impact  
Policy EWP1 – Sustainable Energy Generation  
Policy EWP4 – Wind Turbine Generation  
Policy EWP12 – Pollution  
Policy EWP13 – Nuisance  
Policy EWP17 – Flood Risk

National Policy

Planning Policy Wales Edition 8 January 2016

Technical Advice Note (TAN) 5: Nature Conservation & Planning (2009).

Technical Advice Note (TAN) 6: Planning for Sustainable Rural Communities (2010).

Technical Advice Note (TAN) 8: Renewable Energy (2005).

Technical Advice Note (TAN) 11: Noise (1997).

Technical Advice Note (TAN) 12: Design (2009).

Technical Advice Note (TNA) 18: Transport (2007).

Additional Guidance

ETSU-R-97 – The Assessment and Rating of Noise from Wind Farms.

Its compliance in association with the above policies is addressed below.

**7.00 PLANNING APPRAISAL**

7.01 Introduction

This is a full planning application for the erection of a 77 metre single 500kw wind turbine at land at Mount Farm, Nant y Ffrith, Ffrith.

7.02 Site Description

The application site is located to the south of Treuddyn, the north of Bwlchgwyn, east of Rhytalog and to the west of Ffrith. It is located off a minor road in an area of grazed agricultural land. The site is elevated above its surroundings and has some small blocks of woodland on the hill side. There are 15 residential properties within a 1km radius of the turbine location. The nearest properties are approximately 600 metres to the east and 600 metres to the south west.



7.03 Proposed development

This is a full planning application for the erection of a 77 metre single 500kw wind turbine. The turbine would be 50 metres to the hub with three blades of 27 metres in length. The tower would be 4 metres in diameter at its base and would sit on a 4.75 metres square concrete pedestal on a 14 metres square concrete slab. Foundations are dug to approximately 3 metres and the tower is attached to the foundations with bolts embedded into concrete. A hardstanding area is required at the base of the turbine for cranes and other vehicles during erection and maintenance of the turbine once operational. This would be of crushed stone and would measure approximately 20 metres x 35 metres. The estimated lifetime of the development is 25 years. There would also be associated infrastructure in the form of a substation, underground cabling and new vehicular access and on site access tracks. There would also be an onsite construction compound and site office for the duration of the construction works. The turbine would be pale grey to off white semi matt in colour. The detailed specifications would be agreed by planning condition if consent is granted.

7.04 The applicants are requesting micro siting of the turbine location, access tracks and other associated development for 30 metres to allow for ground conditions.

7.05 The site access is from an unclassified road off the B5101 and would utilise an existing field entrance upgraded to take the traffic from the development. The internal access tracks will be 5 metres wide and approximately 700 metres in length up to the turbine, substation and crane pad location. The access track would be constructed of a compacted stone base and would remain in place for the lifetime of the site.

7.06 The wind turbine would have a 500 kw output capacity and the electricity generated would be exported to the national grid, where it would be eligible for payment under the feed in tariff payment scheme. It is anticipated that the turbine would generate approximately 1,156MWh per annum, equivalent to the electricity requirements of approximately 271 households.

7.07 The power produced by the turbine would be fed to an on-site substation measuring 5.3 x 3.3 x 3.3 metres high. The appearance of the substation would be agreed by condition if permission was granted. The majority of the cabling would be laid adjacent to the access tracks and a connection would be made to the existing 11kV

network in the area although this has not yet been confirmed as it is subject to separate consents.

7.08 The wind turbine would start operating when the wind speed reaches 3 metres per second and is designed to withstand wind speeds in excess of 60 metres per second. It also has a lightening protection system.

7.09 The construction period is estimated to be 12 – 16 weeks including reinstatement of the working areas. With construction taking place between 07.00 -19.00 Monday to Friday and 08.00 – 18.00 on Saturdays. There would be three types of traffic associated with the construction period; abnormal loads delivering the turbine components; conventional HGBV's delivering stone and concrete and ancillary vehicles for workers. It is predicted that there would be 6 (12 with return trips) exceptional loads with a further 2 loads delivering mobile cranes. The route for such vehicles is from the east from the unclassified road linking Llanfynydd to the B5104. In terms of HGV traffic it is estimated there would be;

- 4 (two way) lorry loads of steel
- 76 (two way ) lorry loads of concrete
- 70 (two way) loads of stone
- 5 (two way) lorries in relation to the substation construction

7.10 The applicant is proposing to put forward a unilateral undertaking to provide £10,000 towards fuel poverty alleviation initiatives in Flintshire and a further £10,000 to the local community for initiatives to help improve the local community, along with a further £10,000 to Theatre Clwyd.

7.11 The application was accompanied by an Environmental Statement which includes;

- Landscape and Visual Impact Assessment by Bright Associates
- Ecology and Ornithology assessment by Atmos Consulting
- Noise Assessment by Atmos Consulting

During the course of the application a Transport Management Plan was submitted by SBA Transport Planning Specialists and an Aviation Assessment undertaken by Wind Farm Aviation Consultants Ltd. A Cultural Heritage Assessment by Headland Archaeology Ltd was also submitted.

7.12 The planning statement explains the site selection process adopted to identify the application site. This begins with a desk based exercise to

assess technical, environmental and planning issues along with wind speeds. Site visits are then undertaken to verify information on selected sites. This site was identified as a potential site due to;

- Mean annual wind speed
- Site would not adversely or directly affect any statutory landscape designations or nature conservation interests or cultural heritage or archaeological interests
- Site would not adversely affect any civilian or military aviation operations or safeguarding zones
- The site is sufficiently distance from properties in respect of noise impacts
- No shadow flicker impact on residential amenity
- Feasible and economically viable connection to the electricity distribution network
- Transportation routes to the site are suitable for construction traffic
- Landowners are engaged in the project and agricultural activities can continue during the turbines operation

The turbine is sited to capture the maximum energy within the defined environmental and technical constraints.

#### 7.13 Issues

Policy EWP4 of the Adopted Flintshire UDP sets out the criteria for assessing the impacts of wind turbine development. It is considered that the main issues to be taken into account in determination of this application are:-

- i. The principle of development.
- ii. Impact on the character of the landscape.
- iii. Impact on Scheduled Ancient Monuments and Historic Landscapes.
- iv. Impact on Aircraft Safety.
- v. Impact on Residential Amenity.
- vi. Adequacy of access to serve the development.
- vii. Impact on ecology.

#### 7.14 Principle of Development

In terms of national guidance, Planning Policy Wales (PPW) advises that the Assembly Government's aim is to secure an appropriate mix of energy provision for Wales, whilst avoiding, and where possible maintaining environmental, social and economic impacts. This will be achieved through action on energy efficiency and strengthening renewable energy production.

7.15 In considering planning applications for renewable energy schemes, the Welsh Government advises that planning authorities should take account of:-

- The contribution a proposal will play in meeting identified national, UK and European targets.
- The wider environmental, social and economic benefits and opportunities from renewable energy and low carbon development.
- The impact on the national heritage, the coast and the historic environment.
- The need to minimise impacts on local communities, to safeguard quality of life for existing and future generations.
- To avoid, mitigate or compensate identified adverse impacts.
- The impacts of climate change on the location, design, build and operation of renewable and low carbon energy development.
- Grid connection issues where renewable (electricity) energy developments are proposed; and
- The capacity of and effects on the transportation network relating to the construction and operation of the proposal.

7.16 Welsh Government also advise that most areas outside strategic search areas within urban locations should remain free of large wind power schemes. It states 'in these areas there is a balance to be struck between the desirability of renewable energy and landscape protection'. Whilst that balance should not result in severe restriction on the development of wind power capacity, there is a case for avoiding a situation where there is a proliferation of turbines across the whole of a county.

7.17 Welsh Government has clear priorities to reduce carbon emissions with one of the ways of delivering this being through the continued development of renewable energy generating projects. TAN8 Renewable Energy included a target of 4 TWh per annum of renewable energy production by 2010 and 7 TWh by 2020. In a letter from the then Minister of Environment and Sustainable Development to Heads of Planning in July 2011 it states that the PPW 2000MW onshore wind target would be achieved by 1700MW coming from within Strategic Search Areas and the remaining 300MW anticipated to come from a combination of development under 25MW, brownfield sites as well as community and local schemes and a contribution from micro-generation. As of 2015 756MW of this target has been developed or consented with a further 963MW in the form of undetermined planning applications. This includes both types of schemes.

- 7.18 Within PPW Figure 12.3 identifies renewable and low carbon energy scales for planning purposes;
- Strategic – over 25MW for onshore wind
  - Local Authority wide – between 5MW and 25 MW for onshore wind
  - Sub Local Authority area – between 50kW and 5MW.
- 7.19 In terms of Local Planning Policy, the Flintshire Unitary Development Plan (UDP) strategy, identifies that sustainable development is a key theme within the plan, in line with PPW. The vision for the plan is ‘to nurture sustainable development capable of improving the quality of life in Flintshire without causing social, economic, resource or environmental harm to existing or future generations’.
- 7.20 The application site lies outside the defined settlement limits within the open countryside. Policy GEN3 sets out the types of development which may be acceptable within the open countryside. Criterion (j) refers to development which is appropriate to the open countryside and where it is essential to have an open countryside location.
- 7.21 Policy STR10 of the UDP provides guidance on the issue of resources and in terms of energy, criterion e advises ‘utilising clean, renewable and sustainable energy generation where environmentally acceptable, in preference to non-renewable energy generation and incorporating energy efficiency and conservation measures in new development.
- 7.22 In addition Policy EWP1 adopts a presumption in favour of renewable energy schemes subject to them meeting the other relevant requirements of the plan.
- 7.23 The detailed guidance on wind turbine development is set out in Policy EWP4 ‘Wind Turbine Development’, which requires proposals to meet a number of criteria including:-
- a) The development is not sited within nor would have a significant adverse impact on, a sensitive area of national or regional environmental, landscape or heritage importance
  - b) The development in conjunction with other wind turbine development will not have a detrimental cumulative impact upon the landscape
  - c) the impact of the development upon agriculture, forestry and recreation and other land uses is minimised to permit existing

uses to continue unhindered

- d) the turbines will be appropriately designed so as to avoid or mitigate against unacceptable environmental impacts including noise, light reflection, shadow flicker and impact on wildlife
- e) Sufficient steps are taken to avoid or where possible to mitigate electro-magnetic interference to any existing transmitting or receiving systems
- f) Where the development of associated ancillary building is required the structures are sensitively designed to enhance the character and quality of the locality and;
- g) Adequate provision has been made in the scheme for the restoration and aftercare of the site on cessation of use.

7.24 It is clear that there is a positive approach taken by Welsh Government to renewable energy having regard to the issue of global warming and climate change. The clear message of both PPW and the Flintshire Unitary Development Plan is that renewable energy proposals should be permitted unless there are unacceptable impacts on landscape, nature conservation and/or residential amenity in relation noise and shadow flicker contrary to the criteria in Policy EWP4 of the UDP.

7.25 There are no planning permissions for large scale wind farms within the county. Permission has been granted for smaller scale turbines 15 – 20Mw in various locations across Flintshire. The only permission for a larger turbine to date is Mold at West Coast Energy's offices. This is for a 35 metre high turbine of 55kw. This permission has recently been renewed and it is not operational.

7.26 Impact on Character & Appearance of Landscape

An Environment Statement (ES) has been submitted as part of this application which includes a Landscape and Visual Impact Assessment (LVIA). This assessed the visual impact of the turbine from 17 viewpoints as agreed with the Council during the Scoping stage of the Environment Impact Assessment. The methodology for the LVIA follows recognised guidance and considers the potential effects of the turbine within a study area of 15km and uses LANDMAP to inform its assessment.

7.27 The Council has commissioned an Independent Landscape Architect to review the submitted LVIA. The landscape architect also reviewed the comments from Wrexham Borough Council. It is considered the methodology is clearly explained and based on the correct guidelines. A detailed assessment on residential properties within 1km and a sequential assessment from local roads within 2km has been undertaken.

- 7.28 The site lies within open countryside outside any designated landscapes. The *Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB)* is to the south west and north west of the proposed turbine location. The site and its environs are situated within the Clwydian Range (NCA12) Landscape Character Area as defined in the Landscape Character Map for Wales (CCW). This type is noted as *“a distinctive, generally rounded and heather clad open hills, intervening vales and contrasting rocky limestone hills on some fringe areas. Gentle to moderate slopes define the eastern side of the area towards Deeside, while steeper slopes, outcrops and cliffs characterise the western and southern sides. Land cover includes improved hill sheep grazing and lowland pasture, interspersed sporadically with areas of arable cultivation. A relatively sparse settlement pattern confined to compact nucleated hamlets and isolated farmsteads. Crossed by a number of arterial ‘A’ roads, the presence of the A55 across the northern part of the area is the most apparent.”*
- 7.29 The site is located within the (FLNTVS006) Visual and Sensory Aspect Area (Level 3). LANDMAP describes this aspect areas as *“Ridge-open upland ridges with a smooth profile and mixture of semi-natural moorland, rough grassland and large sized improved grassland fields, with the steeper edges covered in woodland and scrub.”* LANDMAP software evaluates this Aspect Area as the following “Scenic Quality – Moderate, Integrity- Low; Character- Moderate; Rarity- Moderate; Overall Evaluation – Moderate area of local landscape value.
- 7.30 Landscape character has been assessed using the above LANDMAP Visual and Sensory Aspect Areas for Close Range impacts (2-6km) and National Character Areas for Medium-range (2-6km) and Long range (6-15 km. The LVIA concludes that the effects on landscape character in close range to be ‘Moderate’ in effect and this will reduce as the distance increases. Beyond the close range at a medium range and long range the effects would be Minor for Clwydian Range (NCA12) and ‘Negligible’ for the remainder National Character Areas. There is no overriding substantial effect on the overall landscape character and the effects will be within a localised area. Therefore at medium and long range there will be almost no effect on landscape character types. It also concludes that there would be no significant effects upon Parks and Gardens of Historic Interest and overall only a ‘Minor effect’ upon Designated Landscapes.
- 7.31 The Landscape Architect commissioned by the Council felt that the LVIA was largely robust and that the

effects on landscape character will be 'moderate' at close range, 'minor' at 'medium' range and 'minor' to 'negligible' at long range with the effects on designated landscapes 'minor'. The visual effects will be 'moderate' to 'major' at close range, 'moderate' or 'minor' to 'moderate' at medium range and 'minor' to 'negligible' at long range. Cumulative effects are likely to be 'negligible'. Although there will be some 'minor' to 'moderate' effects from limited parts of the AONB at medium range to the south and south west, this should not adversely affect its special qualities. Effects can be 'adverse', 'neutral' or 'beneficial' and the assessment has concluded that effects can be 'neutral' and not necessarily adverse on landscape character and visual amenity. This is a matter for professional judgement and it is also relevant that as the life expectancy is for 25 years and any effects are reversible following decommissioning.

- 7.33 The Landscape Architect commissioned by the Council considers that the proposals would introduce a new vertical element characterised by moving blades into the landscape resulting in a direct effect on character and visual amenity at close range. The location and siting on rising ground is acceptable and it was considered that a turbine of this size would be in scale with the setting of rolling topography, regular field pattern and distinctive woodland blocks. She also agreed with the conclusion of the LVIA that the development can be accommodated within this landscape setting.
- 7.34 NRW state that the proposal will impact on the character and quality of the landscape in the locality and will affect views in the boundary area of the AONB, which lies approximately 2.3km to the south west (relative location estimated from Environmental Statement Figure 1.2 dated 15/07/13).
- 7.35 Although this effect will include views into and out of the Clwydian Range and Dee Valley AONB, NRW are of the opinion that this will not result in a substantial impact upon the AONB itself.
- 7.36 There are concern in terms of the micro – siting of the turbine, access tracks and other associated development by 30 metres. These were raised by the Council's appointed Landscape Architect. Although it is accepted that some flexibility is required due to ground conditions, 30 metres could alter the effects from the close viewpoints, footpaths and dwellings, however it is unlikely to alter the overall results of the assessment. If permission was granted it would be considered necessary to reduce this micro-siting to 5 metres.



7.37 Impact on the Setting of Scheduled Ancient Monuments and Historic Landscapes

Consultation on the application has been undertaken with Cadw and CPAT in order to assess the likely impacts of development upon Scheduled Ancient Monuments and Historic Landscapes, Parks and Gardens in the area.

7.38 The proposed development is located in the vicinity of the following scheduled ancient monuments known as;

- DE056: Maes Maelor Round Barrow
- DE109: Offa's Dyke: Brymbo Hill Section
- DE110: Offa's Dyke: Section S from Cae Llewellyn
- DE113: Offa's Dyke: Vron Farm Section
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- FL205: Pentre round barrow
- FL206: Pen-y-stryt round barrow
- FL207: Carreg – y – Llech standing stone
- FL208: Bryntirion round barrow

7.39 The nearest monuments being located approximately 2.5km from the turbine and varying degrees of screening offered by intervening topography, vegetation and buildings. The immediate setting of the scheduled section of Offa's Dyke is the road which follows the course of Offa's Dyke with extensive screening in the form of existing woodland and buildings. The magnitude of the impact on the above listed monuments can be considered to range from negligible to slight and the development will not have a significant impact on the settings of the listed monuments. CPAT have no objections to the development. There are no direct impacts arising from the construction of a turbine in this location. Indirect impacts are confined to a negligible degree of harm to the significance of the non-designated prehistoric cairns on Pen Llan Y Gwr, which lie 1.17km to the southeast.

7.40 CADW were specifically asked about the impact of transporting the component parts of the turbine in the form of abnormal loads along the existing public roads occupying the line of Offa's Dyke following concerns raised by third parties. Cadw consider that abnormal loads are likely to be few in number and any surviving underlying archaeology being sealed under present road surface. Any significant

damage to the archaeology of the Dyke will have occurred when the road was first formalised and metalled effectively removing the upper layers of the monument.

- 7.41 A Cultural Heritage Assessment was also submitted during the course of the application. This assesses the impact of the turbine on historic assets within 5km. This includes World Heritage Sites, Scheduled Monuments, Listed Buildings, Conservation Areas, Registered Parks and Gardens and Landscapes and Undesignated historic assets. Within 2km of the application are three Listed Buildings, one Scheduled Monument and one Conservation area.
- 7.42 The Scheduled monument is Pentre Round Barrow and lies 2.5 km from the turbine location and 1.8km from the nearest part of the access track. The Listed buildings are all Grade II and comprise a chapel and former school room in Treuddyn village and a house southwest of the turbine. The Conservation area is in Treuddyn village. Within 5 km there is 1 Grade I Listed Buildings, 8 Grade II\* Listed Buildings, 81 Grade II Listed Buildings, 29 Scheduled Monument and one Conservation area. There are also 5 registered parks and gardens.
- 7.43 The predicted effects on these assets is assessed in detail in the report. There are some indirect impacts to the settings of some assets which have long range views. It is not considered that this would affect the significance of the majority of the assets. A negligible degree of harm is identified to the significance of a group of non-designed assets at Pen-llan-y-gwr (a prehistoric settlement and cairns which lie 1.17km south east of the turbines location. The visual change in the setting of these assets will persist of the life time of the development and would be reversed on de-commissioning.
- 7.44 Impact on Aircraft Safety  
Consultation on the application has been undertaken with both Hawarden and Liverpool John Lennon Airports (LJLA) and the Ministry of Defence, in order to assess whether the development has the potential to create a physical obstruction to air traffic movements and/or cause interference to air traffic control and radar installations.
- 7.45 The turbine is located within the 'critical operational area' where no new developments are allowed. The area is under the extended runway centreline for the approach to runway 04 and has an array of traffic including fast jets, transport aircraft, gliders and numerous general aviation operations in what is an uncontrolled airspace.
- 7.46 Hawarden Aerodrome/Airbus object to the development on the grounds that the turbine would compromise flight safety and safe aircraft operations to and from Hawarden aerodrome. They consider

that the proposed turbine infringes the 04 approach slope by 215.99m and the 22 take off and climb slope by 125.03m. The outer horizontal surface is also infringed by 220.46m AOD. These protected surfaces as required by the CAA regulations are critical for the safe operations at an aerodrome and need to be protected from any new infringements in order to comply and maintain the current aerodrome license.

- 7.47 In terms of the radar impacts while Hawarden Aerodrome/Airbus consider these to be marginal, some residual risk remains given the proximity of the turbine to the blocking point and its location beneath the extended centreline of the runway. Hawarden Aerodrome/Airbus requested a further risk assessment to be undertaken by a radar specialist at the developers expense to confirm that there will be no detection of the turbine which could compromise operations. This was undertaken however Airbus remained concerned that there was no factual evidence to prove that there will be no radar impact. Following the submission of this report Hawarden Aerodrome/Airbus accepted that there would be no impact on the instrument landing system (ILS), however there is concern for non-instrument traffic using the aerodrome.
- 7.48 The Civil Aviation Authority (CAA) have been involved in prolonged discussions between the applicant and Hawarden Aerodrome/Airbus as a mediator. The CAA support the view of Hawarden aerodrome and the operator and competent authority in safeguarding their aerodrome.
- 7.49 The CAA considered the issue against existing International Civil Aviation Organisation global standards (as published in Annex 14 to the Chicago Convention), UK policy published in Civil Aviation Authority Publication (CAP) 168 "Licensing of Aerodromes" and the Aerodrome Regulations (EC Reg No 139/2014) and associated Acceptable Means of Compliance and Certification Specifications, published by the European Aviation Safety Agency to which Hawarden Aerodrome are likely to transition to over the next 12 months. In respect of safeguarding, the turbine has been proposed for location in the approach and take-off funnels of Hawarden Airport. The turbine represents a further infringement of the approach and take-off climb surfaces, which are already significantly infringed by high ground.
- 7.50 ICAO Annex 14 Chapter 4 paragraph 4.2.3 states that "New objects or additions to existing objects shall not extend above an approach surface, above a transitional surface or above a take-off climb surface, except when, in the opinion of the appropriate authority, the new object or extension would be shielded by an existing immovable object.
- 7.51 Similarly CAP 168 states that "New objects or additions to existing objects shall not extend above an approach surface, above a transitional surface or above a take-off climb surface, except when in the opinion of the CAA the

new object or addition would be shielded by an existing immovable object" whilst EASA Certification Specifications Aerodrome Design Issue 2 reference CS ADR-DSN.J.480 Precision approach runways sub-paragraph (f) states that new objects or extensions of existing objects should not be permitted above an approach surface or a transitional surface except when the new object or extension would be shielded by an existing immovable object.

- 7.52 The CAA has conducted a formal shielding assessment to assess the degree to which current terrain and other obstacles in a straight line direction between the airport and the proposed location/tip of the turbine would already screen the turbine in accordance with published specifications. The outcome of the assessment is that the turbine cannot be considered to be shielded by existing terrain/obstacles. Effectively the proposed turbine would sit on the highest ground in a direct direction from the aerodrome out to the limit of the approach surface, which is 15km beyond the point that is a distance of 60 m before the landing threshold.
- 7.53 In respect of flight procedures, the existing Instrument Approach Procedures are not affected. For departures Hawarden does not have Standard Instrument Departures (SIDs). They only have "Procedures for Aircraft departing Hawarden to join the Airways System" and these are not obstacle assessed. Accordingly, the CAA has not made any safeguarding assessment of them. In respect of aircraft operations, Hawarden Aerodrome/Airbus is presently developing its A330 aircraft, modified to carry aircraft parts and oversized cargo, which is planned to operate at Hawarden. At the time of writing the performance requirements for the A330 Beluga are not known and it is not likely to fly until 2018.
- 7.54 In respect of air traffic services, the turbine is not within controlled airspace but no significant adverse impact on air traffic services is anticipated that affects operations; it is an obstacle for aircraft operating in the area - similar obstacles exist across the country that Visual Flight Rules aircraft have to avoid. There is not likely to be a significant impact on surveillance radar that affects operations and the turbine does not impact on the Instrument Landing System signal.
- 7.55 In summary, the CAA considers that since the proposed turbine infringes the approach and take-off climb slopes and, following our assessment that it is not shielded, this goes against international standards and certification specifications as well as UK CAA policy. Since this advice was issued a further shielding assessment was undertaken by the CAA and concluded that the turbine would not be shielded. However the CAA do state that the wind turbine should not adversely impact upon the airport and would not affect its continuing certification under the relevant regulations.
- 7.56 NATS (National Air Traffic Control Services) Safeguarding have advised that the proposed development has been examined by their technical and

operational safeguarding team and a site specific assessment was undertaken. Although the proposed development is likely to impact upon our electronic infrastructure no objection is raised.

7.57 Impact on Residential Amenity

A noise assessment has been submitted as part of the application to determine the operational noise impact of the proposed 500 kw turbine. The principles and guidelines for the environmental assessment of wind turbine related noise, are given in the report entitled ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms which is based on the findings of a working Group on Noise from Wind Turbines. This is referred to in TAN 8 'Renewable Energy'.

7.58 The noise assessment identifies all properties within a 1km radius of the proposed turbine location. There are no properties within 500 metres of the turbine. Of these 9 Noise Sensitive Receptors (NSR's) were identified. These are properties which are sensitive to noise and therefore require protection from nearby noise sources. Consequently noise levels throughout the assessment are calculated where appropriate to the closest garden boundary rather than the façade of the building in order to ensure protection of existing amenity of residential garden areas. Noise during both construction and operation was assessed.

7.59 The calculated construction noise levels for the proposed turbine are below the daytime 65db LAeq noise limit and the 55dB LAq evening and weekend noise limit at all NSR's.

7.60 The calculated operational noise assessment was undertaken in accordance with the above ETSU-R-97 Guidance. The noise modelling defines a 35dB LA90 noise contour surrounding the proposed turbine. Any NSR's located within and on the edge of this contour are then identified as the nearest NSR's and require a detailed assessment under the ETSU-R-97 to be undertaken. The detailed assessment requires background noise level monitoring, the results of which are used to derive the operational noise level limits for each NSR. If there are no NSR' identified within the noise contour, no further assessment is required. The noise levels at each NSR are presented within the Noise Assessment based on the worst case scenario of wind direction. These are all predicted to be below the 35dB LA90 noise level at between 26.5dB and 29.8dB LA90. If the turbine specification changed then further noise assessments would be required to be carried out. Public Protection agree with the findings of the noise assessment and advise the imposition of conditions to control any potential noise impacts.

7.61 Shadow Flicker

Shadow flicker can arise from the passing of the moving shadow of the

turbine rotor over a narrow opening such as the window of a nearby residence. To experience shadow flicker a property must be within ten rotor diameters of a turbine. In this case of this turbine that would be 540m of the turbine. At a distance beyond that, the blades do not cover the sun but only partially mask it, substantially weakening the shadow. The nearest third party property is Gwernto Farm at 670 metres away. It is not considered that shadow flicker would occur at this property.

7.62 The Public Protection Manager has also considered this aspect of the proposed development and raises no objection given the distances involved.

7.63 Adequacy of Highways

The turbine is broken down into components for transportation to the site and will form Abnormal Indivisible Loads (AIL's). The impact of transportation of these components on the existing highway network is of particular importance given the potential conflict with existing traffic movements on single carriageway roads in the vicinity of the site. There will also be other associated traffic from contractors on the site.

7.64 A Transport Management Plan was submitted by the applicant's agent as part of the application process. A turbine of this size is generally delivered in up to 6 abnormal deliveries (12 return trips). In addition to the turbine components a mobile crane with a capacity of up to 400 tonnes would be required to offload the components along with a smaller crane to allow the assembly of the main crane. The decommissioning would require a similar number of abnormal loads. The construction programme and therefore traffic associated with its contractors is anticipated to last 2 - 3 months. In addition to the AIL there would be deliveries of steel, concrete and stone as outlined above. 10 vehicles a day are anticipated for staff vehicles once the delivery of the construction materials has been completed. Once operational the traffic will be limited to one vehicle movement every fortnight for general maintenance during its 25 year operational lifetime.

7.65 The abnormal load route of has been indicated within the Transport Management Plan and would access the site from Ellesmere Port on the M53, along the A55 and A483, via the A525 on the B5430, then on to the A5104, then the B5101 and the unclassified road network. This is a total of 35 miles.

7.66 Highways have no objections with the proposed abnormal loads or other traffic generated from the site operations. They suggested a number of conditions related to the abnormal loads along with parking requirements for construction vehicles.

7.67 Ecological Impacts

Although the site does not form part of a statutory European designated wildlife site, the impact of the development on any European Protected

Species which may be present is required to be undertaken. Both Natural Resources Wales (NRW) and the County Ecologist have considered the impact of development particularly on existing bat roosts a number of which are located in proximity to the application site.

- 7.68 The Environmental Statement has a chapter covering ecological and ornithological impacts. This assesses the impact of the turbine on both habitats and protected species.
- 7.69 NRW are generally satisfied with methods and detail of the ecological surveys undertaken for the project. The report states that the project is unlikely to cause detriment to the favourable conservation status of any protected species. NRW agrees with this providing:
- Mitigation stated within the report is implemented.
  - Reasonable Avoidance Measures are implemented and adhered to.
- 7.70 Great crested newts (GCN) are present within 500m of parts of the project. Given the limited nature of the works within 500m, and habitat separating working areas and populations of GCN, NRW are of the opinion that the impact upon this species will not be significant. Also, combined with the proposed mitigation and Reasonable Avoidance Measures, NRW considers that the project will not be detrimental to the favourable conservation status of the species.
- 7.70 The development lies approximately: 2.3km away from the Berwyn a Mynyddoedd De Clwyd SAC and the Llandegla Moor SSSI; 2.5km from the Coed Talon Marsh SSSI and 2.8km from the Ruabon/Llantysilio Mountains and Minera SSSI. Such sites are protected under the Habitats and Species Regulations 2010 (as amended), the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000.
- 7.71 These sites are notified for their ecologically sensitive / outstanding features. Due to the distance of the proposals from these protected sites, there is no pathway for the project to impact upon most of these features. The ecological assessments undertaken also show that mobile avian features of these sites are unlikely to be adversely affected by the development. Therefore NRW consider it unlikely that this project will have a significant impact upon these protected sites.
- 7.72 NRW are of the opinion that this project is unlikely to have a substantial impact upon the Clwydian Range and Dee Valley AONB and will not result in significant impacts upon any protected sites, species or flood zones. Therefore NRW do not object to the proposals.
- 7.73 The impact on bats has been considered in detail through an interpretation

of existing records and a habitat and roost assessment of the site and surrounding area. Whilst some of the trees and buildings have features which are potentially suitable for bat roosts no further surveys were undertaken due to the distance from the proposed turbine at over 600-700m north west and the limited connectivity. The Council's Ecologist and NRW are satisfied with the methodology and proposed recommendations.

## **8.00 CONCLUSION**

- 8.01 It is acknowledged that current national and local planning guidance encourages the use of renewable energy technologies. However the need to meet the wider environmental, social and economic benefits and opportunities for renewable energy does not outweigh the harm caused to flight safety and safe aircraft operations to and from Hawarden aerodrome and therefore the application should be refused.

### **Other Considerations**

The Council has had due regard to its duty under Section 17 of the Crime and Disorder Act 1998 and considered that there would be no significant or unacceptable increase in crime and disorder as a result of the recommended decision.

The Council has acted in accordance with the Human Rights Act 1998 including Article 8 of the Convention and in a manner which is necessary in a democratic society in furtherance of the legitimate aims of the Act and the Convention.

The Council has had due regard to its public sector equality duty under the Equality Act 2010.

The Council has had due regard to its duty under Section 3 of the Wellbeing of Future Generations (Wales) Act 2015 and considered that there would be no significant or unacceptable impact upon the achievement of wellbeing objectives as a result of the recommended decision.

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